ART-13

s

ce

ets,

November 1962
AFA4GXJ

ART-13 CONVERSION

The ART-13 transmitter, properly converted, is an ideal medium power rig for Air Force MARS HF band use. It will load a random length antenna on any frequency from 2 to 18 MC.

The following conversion does three things: 1. Puts tube heaters on AC to make construction of a large 10 amp. DC supply unnecessary. 2. Provides DC for carbon mike current. Incidentally, there will be no hum on the carrier. LeConte Cathey, AF4KYN, designed the speech amplifier conversion. 3. Adds a large variable capacitor across the output to make the loading system a pi network on the lower frequencies.

HEATERS

1. Remove the bottom and front cover panels to expose underchassis wiring and the autotune units. Remove all tubes. Remove the phone jack strip retaining screws.

2. Remove autotune units A and C as follows:

   a. Loosen locking bar and rotate dial counter-clockwise to limit. Mark this position on dial.
   b. Loosen setscrews and remove knob.
   c. Remove cover plate and washer.
   d. Remove autotune unit by removing two long screws at upper corners and one short screw at bottom. Mark units A (or C) and be careful not to rotate the mechanism. Do not lose the short, brass linkage that couples the autotune unit to the switch mechanisms.

3. R116 is the resistor seen where autotune unit C was removed. It has three wires at one end and two at the other.

   a. Remove the three wires from one end of R116, solder together, and tape.
   b. Remove the two wires from the other end of R116, and determine which shows continuity with pin 7 of V101 (837) oscillator tubes. Solder the other wire to one end of R116.
   c. Face the underchassis of the transmitter with the rig lying on its back. Notice the group of wires leading from the right end of a phenolic tube near the back, up to the oscillator section. Determine which of these wires has continuity with the single wire that is disconnected from R116. (Pierce the insulation with a pin connected to the ohm-meter lead.)
   d. Cut this wire free from the lacing and cut in two. Then attach 12" lengths of insulated wire to each end. Tape the soldered connections. Connect the single free wire at R116 to the open end of R116.
   e. Feed the wire coming from the phenolic tube up between the 811 and 813 sockets, cut to length, and solder to the top of R121 (o.8 ohm).
   f. Drill a 1/8" hole in the lower left corner of the bulkhead where autotune unit A was installed.

g. Bring the remaining 12" wire through this hole, cut to length and solder to pin 7 of the speech amplifier power plug. Run wire clear of autotune gearing.

4. Replace autotune mechanisms carefully.

5. Replace phone jack strip, front and bottom panels. Replace tubes.

SPEECH AMPLIFIER

1. Remove speech amplifier from transmitter and remove cover from box on top of unit.

2. Remove R215 (250 ohm).

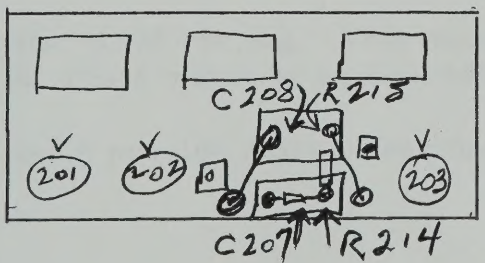
3. Cut wire from negative terminal of C208, two inches from this terminal. Tape end coming up from chassis. Connect 2" length to negative terminal of C207 (ground).

4. Replace cover on box.

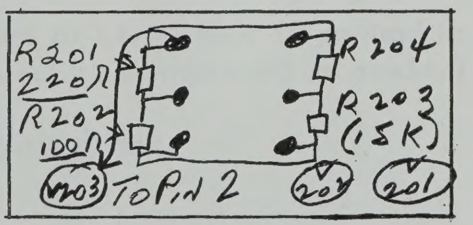
5. Under the chassis, locate the wire going from pin 2 of V203 (6V6) to R201 (220 ohm). Change this wire to pin 8 of V203 (6V6).

6. Change R203 from 15,000 ohms to 4700 ohms.

7. Wire the mike selector switch in the down position. (Carbon mike).

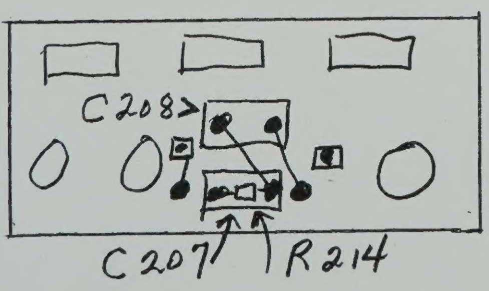

C208
R215
V 201
V 202
V 203
C207
R214

Before Conversion

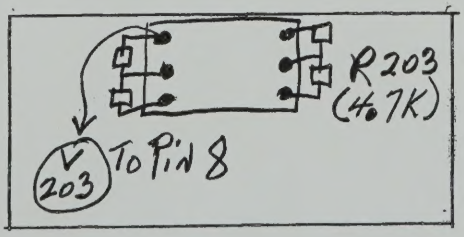

R201
220Ω
R202
100Ω
R204
R203
(15K)
V203
To Pin 2
V 202
V 201

TOP VIEW

BOTTOM VIEW


C208
C207
R214

After Conversion


R203
(4.7K)
V 203
To Pin 8

OUTPUT

1. Install a three section, variable capacitor (1200 mmf) in the space intended for the low frequency oscillator unit. Bring the shaft through the front panel and attach a suitable knob.

2. Cut the heavy wire from the lower connector on the antenna insulator.

3. Connect this lead to the stators of the variable capacitor. (Do not put strain on the vacuum relay.)

4. Connect the frame of the variable capacitor (rotor) to ground.

POWER SUPPLY

1. Connections to U-7/U plug after conversion.

Pin No.	Voltage/current reg.
1	400 vdc/250 ma.
2	(meter connection)*
3	28 vdc to ext. relay **
4	28 vdc/3 A.
5	Ground
6	28 vac/7 A.
7	Unused
8	28 vdc to ext. relay **
9	Ground
10	1200 vdc/300 ma. (800 to 1500 vdc)

* Pin 2 is the -1200 vdc leg. This must be connected to 13.5 ohms to ground in order for the P. A. Plate meter to read 0-300 ma. (Not 0-200 as indicated on scale.)

** Pins 3 and 8 provide relay power for receiver muting, etc.

5 ohms 10 watt

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20 January 1965

CLASSIFICATION CANCELLED
BY AUTHORITY OF CG, AMC
DATE: 21 MAR 47
Peter K. Petersen
Captain

~~RESTRICTED~~

AN 16-30ART13-3
(Old No. AN 08-30ART13-3)

HANDBOOK
OPERATING INSTRUCTIONS

RADIO TRANSMITTING SETS
AN/ART-13 AN/ART-13A
AND
NAVY MODELS
ATC ATC-1

[redacted]

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AND THE CHIEF OF THE BUREAU OF AERONAUTICS

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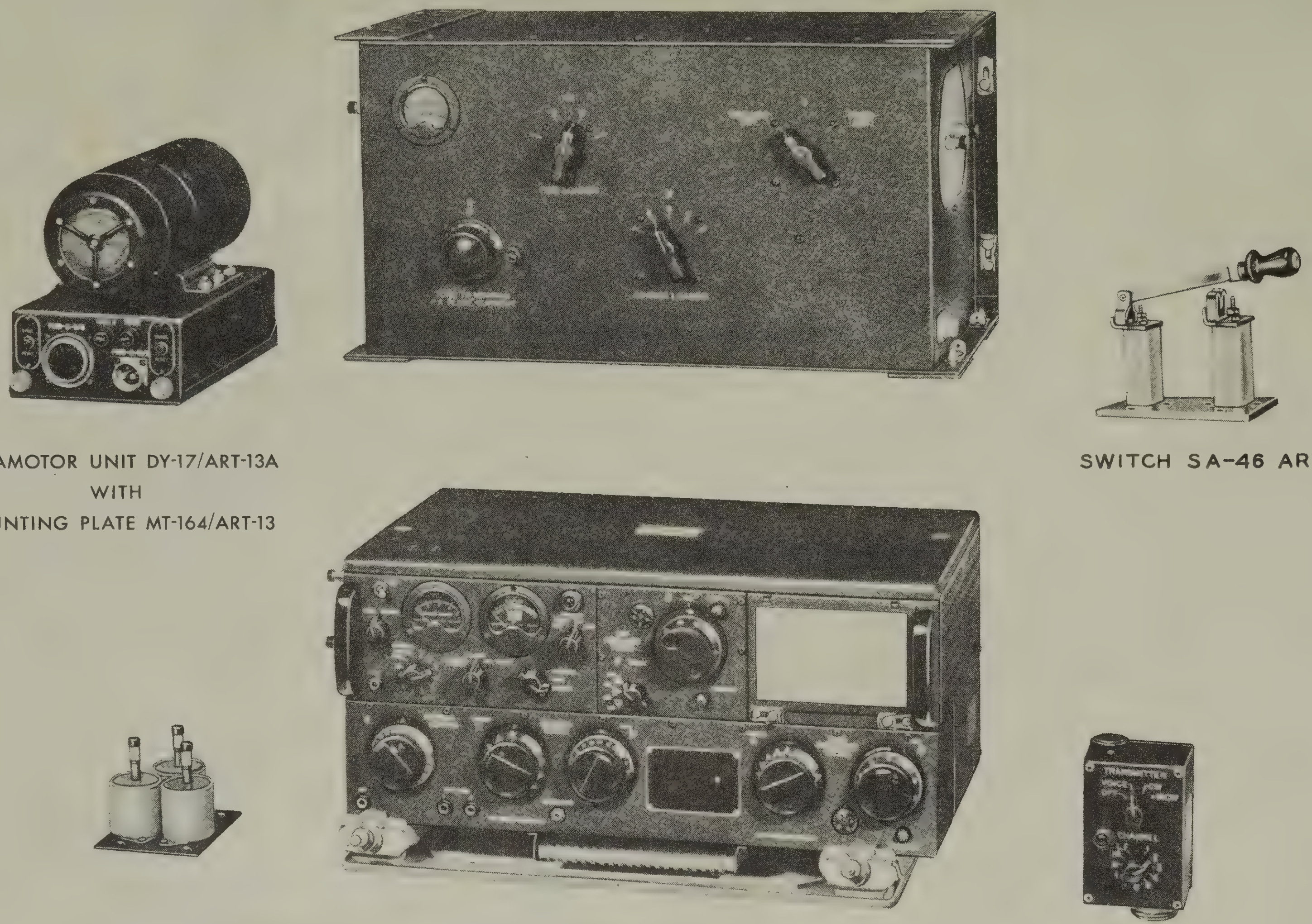


ANTENNA LOADING UNIT CU-32/ART-13A

DYNAMOTOR UNIT DY-17/ART-13A
WITH
MOUNTING PLATE MT-164/ART-13

SWITCH SA-46 ART-13A

ANTENNA SHUNT CAPACITOR
CU-24/ART-13

RADIO TRANSMITTER T-47A/ART-13
WITH
MOUNTING PLATE MT-283/ART-13 AND
MOUNTING BASE MT-284/ART-13

CONTROL UNIT C-87/ART-13
WITH
MOUNTING PLATE MT-163/ART-13

Figure 1-1—Radio Transmitting Set AN/ART-13A—Major Assemblies

Destruction of Abandoned Materiel in the Combat Zone

In case it should become necessary to prevent the capture of this equipment and when ordered to do so, DESTROY IT SO THAT NO PART OF IT CAN BE SALVAGED, RECOGNIZED, OR USED BY THE ENEMY. BURN ALL PAPERS AND BOOKS.

Means:

1. Explosives, when provided.
2. Hammers, axes, sledges, machetes, or whatever heavy object is readily available.
3. Burning by means of incendiaries such as gasoline, oil, paper, or wood.
4. Grenades and shots from available arms.
5. Burying all debris or disposing of it in streams or other bodies of water, where possible and when time permits.

Procedure:—

1. Obliterate all identifying marks. Destroy nameplates and circuit labels.
2. Demolish all panels, castings, switch- and instrument boards.
3. Destroy all controls, switches, relays, connections, and meters.
4. Rip out all wiring and cut interconnections of electrical equipment. Smash gas, oil, and water-cooling systems in gas-engine generators, etc.
5. Smash every electrical or mechanical part, whether rotating, moving, or fixed.
6. Break up all operating instruments such as keys, phones, microphones, etc.
7. Destroy all classes of carrying cases, straps, containers, etc.
8. Bury or scatter all debris.

DESTROY EVERYTHING!

★

Unsatisfactory Report

For U. S. Army Air Force Personnel:

In the event of malfunctioning, unsatisfactory design, or unsatisfactory installation of any of the component units of this equipment, or if the material contained in this book is considered inadequate or erroneous, an Unsatisfactory Report, AAF Form No. 54, or a report in similar form, shall be submitted in accordance with the provisions of Army Air Force Regulation No. 15-54, listing:

1. Station and organization.
2. Nameplate data (type number or complete nomenclature if nameplate is not attached to the equipment).
3. Date and nature of failure.
4. Radio model and serial number.
5. Remedy used or proposed to prevent recurrence.
6. Handbook errors or inadequacies, if applicable.

For U. S. Navy Personnel:

Report of failure of any part of this equipment during its guaranteed life shall be made on Form N.Aer.4112, "Report of Unsatisfactory or Defective Material," or a report in similar form, and forwarded in accordance with the latest instructions of the Bureau of Aeronautics. In addition to other distribution required, one copy shall be furnished to the inspector of Naval Materiel (location to be specified) and the Bureau of Ships. Such reports of failure shall include:

1. Reporting activity.
2. Nameplate data.
3. Date placed in service.
4. Part which failed.
5. Nature and cause of failure.
6. Replacement needed (yes—no).
7. Remedy used or proposed to prevent recurrence.

For British Personnel:

Form 1022 procedure shall be used when reporting failure of radio equipment.

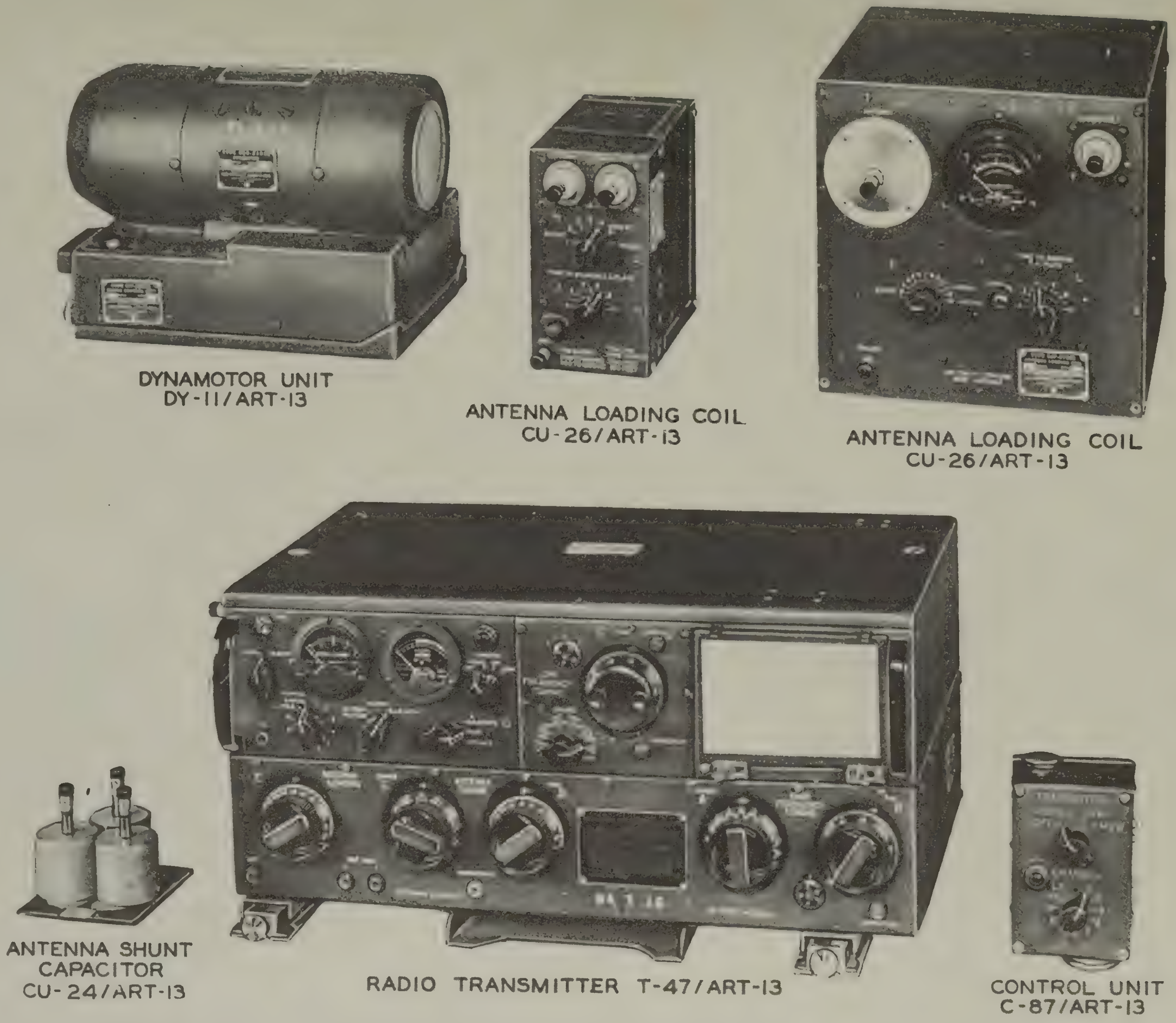

DYNAMOTOR UNIT
DY-11/ART-13
ANTENNA LOADING COIL
CU-26/ART-13
ANTENNA LOADING COIL
CU-26/ART-13
ANTENNA SHUNT
CAPACITOR
CU-24/ART-13
RADIO TRANSMITTER T-47/ART-13
CONTROL UNIT
C-87/ART-13

Figure 1-2—Radio Transmitting Set AN/ART-13 (Navy Model ATC or ATC-1) Major Assemblies

WARNING

Operation of this equipment involves the use of high voltages which are dangerous to life. Operating personnel must observe safety regulations. Whenever the dynamotor is running, there is a potential of 1150 volts applied to the plate caps on top of the tubes.

SECTION I
GENERAL DESCRIPTION

1. GENERAL.

a. The contents of this handbook apply to Radio Transmitting Set AN/ART-13A (fig. 1-1) and to an earlier model of the same general type of equipment, identified as Radio Transmitting Set AN/ART-13 (also known and employed by the U.S. Navy as Navy Model ATC or ATC-1) shown in figure 1-2. A table of interchangeability for the major assemblies of these equipments is included as paragraph 4 of this section.

b. This equipment includes transmitting components which provide radio communication by voice, modulated continuous wave telegraphy (MCW), or continuous wave telegraphy (CW).

c. Transmission frequencies in the ranges 200 to 1500 kilocycles (when the low frequency oscillator is installed) and 2000 to 18,000 kilocycles can be obtained with this equipment. When operating with CW or MCW emission, entirely satisfactory performance will be obtained for keying speeds up to 30 words per minute.

d. Operation is possible into either fixed or trailing wire antennas. Selection of the desired antenna is accomplished either by means of switches incorporated in low frequency tuning equipment or by means of Switch SA-13/U when low frequency equipment is not used in the installation. This arrangement allows both transmission and reception on the same antenna for all frequencies and is used in Army installations.

e. Shifting from one transmission frequency to another can be accomplished by the conventional method of "hand positioning" the controls or by using the built-in automatic shifting mechanism known as the "Autotune". Autotune operation (either local or remote) is available for eleven pre-selected frequencies, one of which may be in the range 200 to 1500 kilocycles and the other ten in the range 2000 to 18,100 kilocycles.

f. Remote operation of the equipment is possible by means of a remote control unit furnished. The equipment may be turned off or on, the type of emission selected, the channel may be selected and the transmitter keyed or modulated from the remote control unit. Operation from the remote position is possible only when the "LOCAL-REMOTE" switch on the transmitter is in the "REMOTE" position. This switch can be operated only from the transmitter panel. However, the transmitter may be keyed or modulated (according to the type of emission selected at the controlling position) from either position any time that the transmitter is on. The red pilot light indicates which position is in control. It will be lit at the controlling position at all times except when the autotune is cycling.

g. When this equipment is in use at altitudes over 20,000 to 25,000 feet, the power is automatically reduced about one-half to prevent arcing or flashover. Satisfactory operation can then be obtained for altitudes up to 40,000 feet.

h. A 28 volt direct current power source is required for operation of the equipment. Voltages as low as 24 volts may be used but reduction in power output and increased time for Autotune operation will result. The dynamotor unit contains a dynamotor machine that supplies the intermediate and high voltage power requirements of the transmitter. The following table shows typical power input requirements for a supply voltage of 28 volts direct current.

Type of Emission Used	*Frequency (megacycles)*	*Power Input (Watts)*	
		Full Power	**Reduced Power*
CW	3.0	780	700
CW (Standby)	3.0	560	560
MCW	3.0	925	760
MCW (Standby)	3.0	560	560
VOICE (90% Mod.)	3.0	925	760
VOICE (Standby)	3.0	250	250

*Reduced power input operating at altitudes higher than 20,000 to 25,000 feet results from automatic reduction in high voltage to prevent flashover.

3. EQUIPMENT REQUIRED BUT NOT SUPPLIED.

Quantity per Equipment	*Name of Unit*	*Army Type Designation*	*Navy Type Designation*	*Required Characteristics*
1	Microphone (with Cord CD-318 or CD-508) or Microphone	T-17 or T-30 T-34 or T-44		Carbon with 40 ohms internal resistance
1	Key	J-37		
1	Headset	HS-33 or HS-38		300 ohm impedance
1	Antenna Equipment	AN/ARA-4		Fixed 30 to 65 feet long, and/or Trailing to 200 feet long
1	Cables and Wiring			Open wiring (for cable and wiring requirements see figure 5-15)

4. INTERCHANGEABILITY OF RADIO TRANSMITTING SET AN/ART-13A AND SIMILAR EQUIPMENTS.

The following table furnishes mechanical and electrical interchangeability information for Radio Transmitting Set AN/ART-13A, AN/ART-13 and Navy Models ATC and ATC-1. Refer to paragraph 5 of this section for more detailed information.

Name of Unit	*AN Type Designation*	*Navy Type Designation*	*British Ref. Number*	*Mechanically Interchangeable with*	*Electrically Interchangeable with*
Radio Transmitter	T-47/ART-13 (M2-with 8Q-2 CFI Unit; M1— with interlock switch)	—52286	None	T-47A/ART-13 When MT-283/ART-13 is attached	T-47/ART-13
Radio Transmitter	T-47A/ART-13	None	110D/878	T-47/ART-13 When MT-283/ART-13 is attached	T-47/ART-13 (M2 with 8Q-2 CFI Unit; M1 with interlock switch
Mounting Base	MT-161/ART-13	Part of —52286	None	Nothing	Not applicable
Mounting Plate plus Mounting Base	MT-283/ART-13 plus MT-284/ART-13	None	Part of 110D/878	Bottom cover and two shock Mounts on T-47/ART-13 plus 2 Mounting Bases MT-161/ART-13	Not applicable
Oscillator	O-16/ART-13	Part of —52286	None	O-17/ART-13A or MX-128/ART-13	O-17/ART-13A except for frequency coverage
Oscillator	O-17/ART-13A	None	110V/21	O-16/ART-13 or MX-128/ART-13	O-16/ART-13 except for frequency coverage
Panel	MX-128/ART-13	Part of —52286	None	O-16/ART-13 or O-17/ART-13A	O-16/ART-13 or O-17/ART-13A to make Transmitter operable in H.F. range without either
Dynamotor Unit	DY-11/ART-13	—23333 or —23333-A plus 21931	None	DY-12/ART-13, DY-12A/ART-13, or DY-17/ART-13A (Height of DY-17/ART-13A is 3/4" greater)	DY-12/ART-13, DY-12A/ART-13 or DY-17/ART-13A (Height of DY-17/ART-13A is 3/4" greater)

2. EQUIPMENT SUPPLIED.

The table below lists the equipment supplied for Radio Transmitting Set AN/ART-13A. Refer to the table of interchangeability in paragraph 4 of this section when parts of Radio Transmitting Set AN/ART-13 (Navy Model ATC or ATC-1) are supplied.

Quantity per Equipment	*Name of Unit*	*Army Type Designation*	*Overall Dimensions (in inches) Length Height Depth*	*Weight (lbs.)*
1	Radio Transmitter (with Panel MX-128/ART-13 installed, Mounting Plate MT-283/ART-13 attached and Mounting Base MT-284/ART-13, and includes plugs, tubes and crystals)	T-47A/ART-13	23.5 x 11.5 x 14.8	62.5
1	Oscillator (includes tube)	O-17/ART-13A	5.4 x 6.4 x 9.7	4.0
1	Mounting Plate (attached to Radio Transmitter T-47A/ART-13)	MT-283/ART-13	20.9 x 1.5 x 13.2	1.6
1	Mounting Base (for Radio Transmitter T-47A/ART-13)	MT-284/ART-13	20.8 x 2.5 x 15.0	3.0
1	Calibration Book (carried in Radio Transmitter T-47A/ART-13)		7.0 x 4.5 x 0.6	0.6
1	Dynamotor Unit (with CQR machine and mounted on Mounting Plate MT-164/ART-13; includes plugs) or	DY-17/ART-13A	13.2 x 8.8 x 7.2	28.0
	Dynamotor Unit (with CG machine and mounted on Mounting Plate MT-164/ART-13; includes plugs)	DY-17/ART-13A		
1	Mounting Plate (for Dynamotor Unit DY-17/ART-13A	MT-164/ART-13	11.2 x 1.3 x 7.0	1.1
1	Antenna Loading Unit (mounted on Mounting Base MT-198/ART-13A; includes plugs)	CU-32/ART-13A	25.7 x 13.9 x 13.0	28.3
1	Mounting Base (for Antenna Loading Unit CU-32/ART-13A)	MT-198/ART-13A	22.6 x 2.8 x 11.4	3.2
1	Control Unit (mounted on Mounting Plate MT-163/ART-13; includes plug)	C-87/ART-13	3.6 x 8.0 x 3.2	1.5
1	Mounting Plate (for Control Unit C-87/ART-13)	MT-163/ART-13	5.3 x 3.6 x 0.3	0.11
1	Antenna Shunt Capacitor	CU-24/ART-13	5.0 x 3.9 x 4.2	1.75
1	Switch	SA-46/ART-13A	6.0 x 4.0 x 2.0	0.87
1	Switch	SA-13/U	9.5 x 9.3 x 4.4	2.5
1	Plug (cannon type NK-27-21C 11/16″)	U-6/U	2.1 x 1.7 x 1.7	0.19
1	Plug (cannon type FK-10-21C 9/16″)	U-7/U	2.4 x 2.0 x 2.0	0.25
1	Plug (cannon type RNK-27-22C 11/16″)	U-8/U	2.0 x 1.8 x 1.8	0.25
1	Plug (cannon type RFK-10-24C 9/16″)	U-9/U	1.9 x 2.6 x 2.1	0.32
1	Plug (cannon type GK-C3-23C ½″)	U-10/U	1.9 x 1.9 x 1.3	0.25
1	Plug (cannon type RWK-C3-22C 7/16″)	U-11/U	1.9 x 1.1 x 1.1	0.12
1	Plug (cannon type WK-C3-23C 7/16″)	U-12/U	2.0 x 1.5 x 1.1	0.13
1	Handbook of Operating Instructions for Radio Transmitting Set AN/ART-13, AN/ART-13A and Navy Model ATC and ATC-1		11.0 x 8.5 x 0.5	0.7
			Total weight (cables not included)	140.54

5. DESCRIPTION OF MAJOR ASSEMBLIES.

The following discussion of the major assemblies of Radio Transmitting Set AN/ART-13A, AN/ART-13 and Navy Models ATC and ATC-1 is to aid in event that a mixed group of assemblies are used for a particular installation. (Refer to pars. 2 and 4, this section.)

a. RADIO TRANSMITTERS.

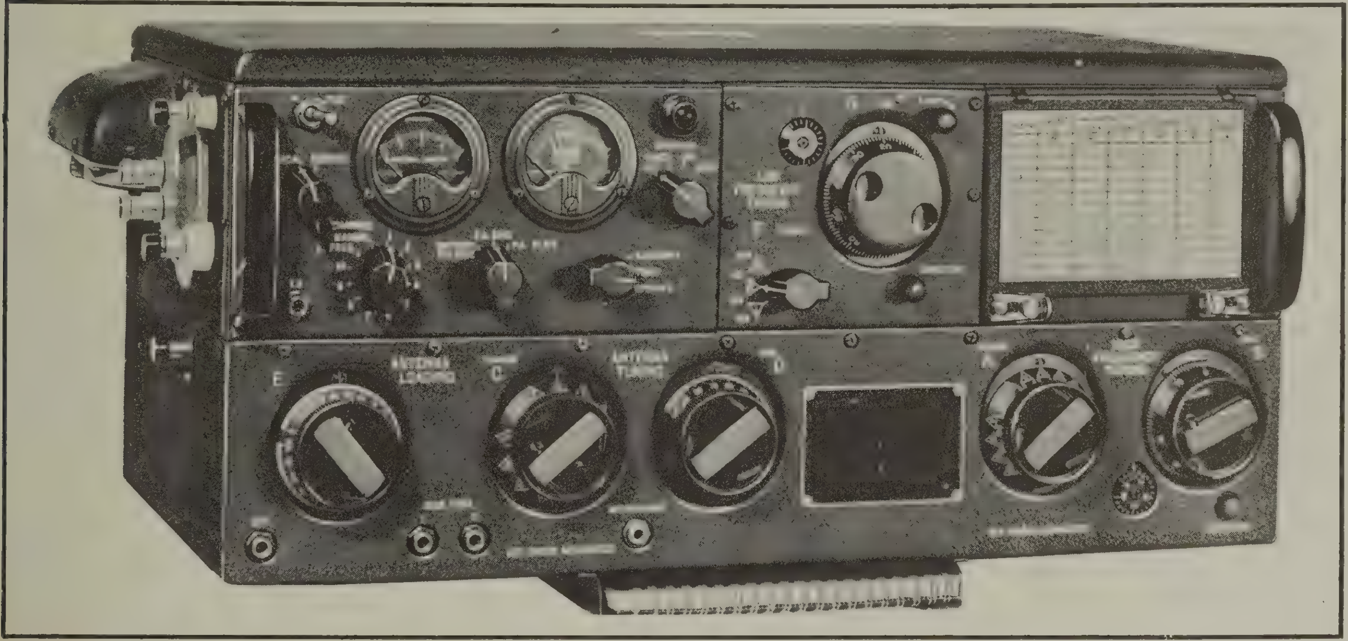


Figure 1-3—Radio Transmitter T-47A/ART-13 with Oscillator 0-17/ART-13A Installed

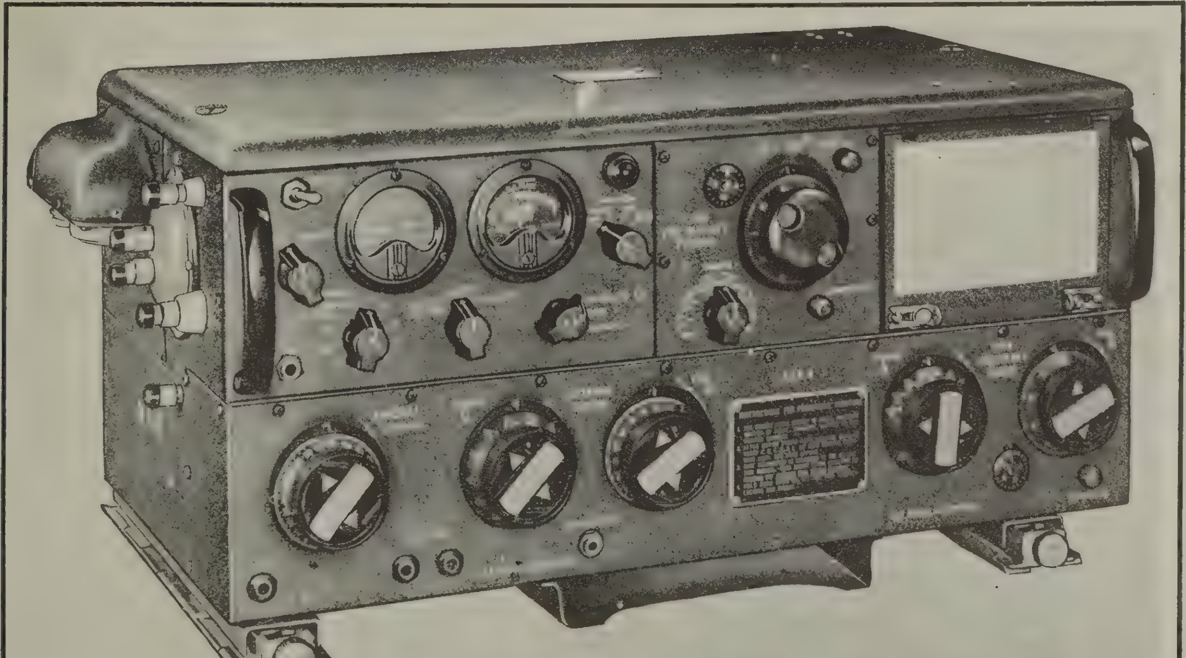


Figure 1-4—Radic Transmitter T-47/ART-13 (Navy Type -52286) with Oscillator 0-16/ART-13 Installed

Name of Unit	*AN Type Designation*	*Navy Type Designation*	*British Ref. Number*	*Mechanically Interchangeable with*	*Electrically Interchangeable with*
Dynamotor Unit	DY-12/ART-13	−23333 or −23333-A plus −21932	None	DY-11/ART-13, DY-12A/ART-13, or DY-17/ART-13A (Height of DY-17/ART-13A is ¾″ greater)	DY-11/ART-13, DY-12A/ART-13, or DY-17/ART-13A (Height of DY-17/ART-13A is ¾″ greater)
Dynamotor Unit	DY-12A/ART-13	−23333 or −23333-A plus −21932	None	DY-11/ART-13, DY-12/ART-13, or DY-17/ART-13A (Height of DY-17/ART-13A is ¾″ greater)	DY-11/ART-13, DY-12/ART-13, or DY-17/ART-13A (Height of DY-17/ART-13A is ¾″ greater)
Dynamotor Unit	DY-17/ART-13A (Height of DY-17/ART-13A is ¾″ greater)	None	110K/1448	DY-11/ART-13, DY-12/ART-13, or DY-12A/ART-13	DY-11/ART-13, DY-12/ART-13, or DY-12A/ART-13
Mounting Plate (for dynamotor unit)	MT-164/ART-13	Part of −23333 or −23333-A	Part of 110K/1448	Nothing	Not Applicable
Antenna Loading Unit	CU-32/ART-13A	None	110B/363	Nothing	CU-25/ART-13 plus SA-22/ART-13
Mounting Base (for Antenna Loading Unit CU-32/ART-13A)	MT-198/ART-13A	None	Part of 110B/363	Nothing	Not Applicable
Antenna Loading Coil plus Antenna Switching Unit	CU-25/ART-13 SA-22/ART-13	47281 None	None 110F/922	Nothing Nothing	CU-32/ART-13A
Antenna Loading Coil	CU-26/ART-13	−47282	None	Nothing	Nothing
Mounting Plate (For Antenna Loading Coil CU-26/ART-13)	MT-162/ART-13	Part of −47282	None	Nothing	Not Applicable
Mounting (for Antenna Switching Unit SA-22/ART-13	FT-142	None	Part of 110F/922	FT-142-A	Not Applicable
Antenna Shunt Capacitor	CU-24/ART-13	481628	110B/362	Nothing	Nothing
Control Unit	C-87/ART-13	23330	110L/133	Nothing	Not Applicable
Mounting Plate (for control unit)	MT-163/ART-13	Part of 23330	Part of 110L/133	Nothing	Not Applicable
Switch	SA-46/ART-13A	None	None	Nothing	Nothing
Switch	SA-13/U	None	None	Nothing	Nothing
Plug	U-6/U	None	None	Nothing	Nothing
Plug	U-7/U	None	None	Nothing	Nothing
Plug	U-8/U	None	None	Nothing	Nothing
Plug	U-9/U	None	None	Nothing	Nothing
Plug	U-10/U	None	None	Nothing	Nothing
Plug	U-11/U	None	None	Nothing	Nothing
Plug	U-12/U	None	None	Nothing	Nothing

visual inspection of the radio transmitter with the top cover removed and comparison with figures 1-5 and 1-6 will be sufficient to tell if an 8Q-2 or an 8Q-1 is installed. Use calibration tables accordingly.

(2) RADIO TRANSMITTER T-47A/ART-13. (*See Figure 1-3*).—These transmitters are a redesign of Radio Transmitter T-47/ART-13. Several changes were made to the circuit including addition of an interlock switch and some components were changed. All of these transmitters are shipped from the factory with an 8Q-2 installed and with Panel MX-128/ART-13 installed in place of low frequency oscillators.

(3) RADIO TRANSMITTER T-47/ART-13. (*See Figure 1-4*).—These transmitters are identical to those furnished with Navy Model ATC and ATC-1 equipment. Early production was equipped with MCW-CFI unit 8Q-1. 8Q-2 was incorporated during production. Some transmitters already delivered before this unit was incorporated were modified by modification M2. That modification replaced the 8Q-1 with an 8Q-2 and replaced the calibration book to conform to the changed unit. Transmitters with this modification were marked "M2" beside the nameplate. Modification M1 consisted of the addition of an interlock switch which shuts off high voltage from the radio transmitter when the top cover is removed.

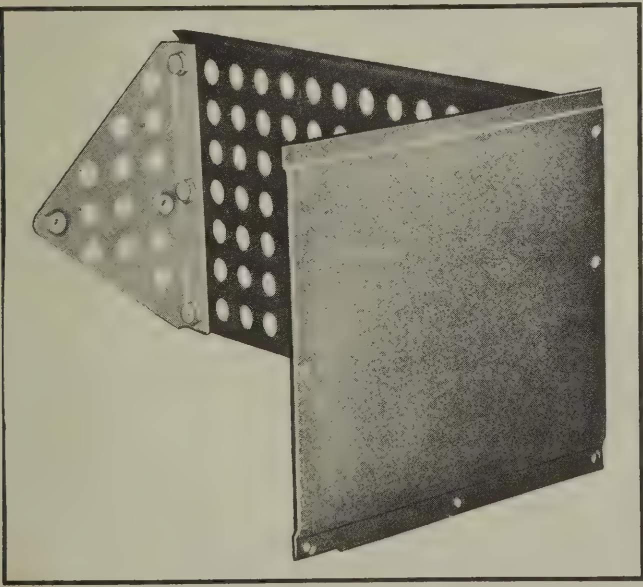


Figure 1-7—Panel MX-128/ART-13

b. LOW FREQUENCY OSCILLATORS.

(1) GENERAL.—Low frequency oscillators are available for extending the frequency range of the transmitter below 2000 kilocycles. These oscillators are installed in the transmitter proper and obtain their power from the circuits in the transmitter. The front panel of the oscillator, which contains the controls for it, forms a part of the front panel of the transmitter. Check points for the calibration of the low frequency oscillators are obtained from the same MCW-CFI unit that provides check point for the high frequency oscillator in the transmitter. Therefore, care must be exercised in the use of calibration tables to be sure that the proper table is used with the MCW-CFI unit in the transmitter.

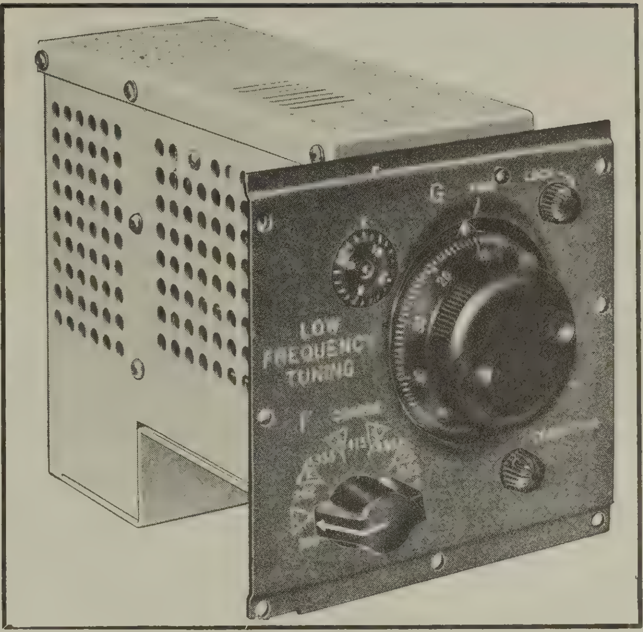


Figure 1-8—Oscillator 0-16/ART-13

(2) OSCILLATOR O-16/ART-13. Figure 1-8 covers the frequency range 200 to 1500 kilocycles. Calibration table 5-3 is for this oscillator with 8Q-2 and calibration table 5-6 is for this oscillator with 8Q-1. The tables in ATC or ATC-1 calibration books, editions 1 through 4 are for this oscillator with 8Q-1. Refer to paragraph 6A, section V for calibration instructions for this oscillator when the MCW-CFI 8Q-2 unit is used.

(3) OSCILLATOR O-17/ART-13A. Oscillator O-17/ART-13A covers the frequency range 200 to 600 kilocycles. Calibration table 5-1 is for this oscillator with 8Q-2 and calibration table 5-4 is for this oscillator with 8Q-1. The tables in the Calibration Book for Radio Transmitting Set AN/ART-13A are for this oscillator with 8Q-2.

(4) PANEL MX-128/ART-13. Figure 1-7 is a blank panel with a resistor to be installed in the transmitter when no low frequency operation is desired. It fills the part of the transmitter panel used for the low frequency oscillator controls and provides the necessary resistor to replace the filament circuit of the low frequency oscillator tube.

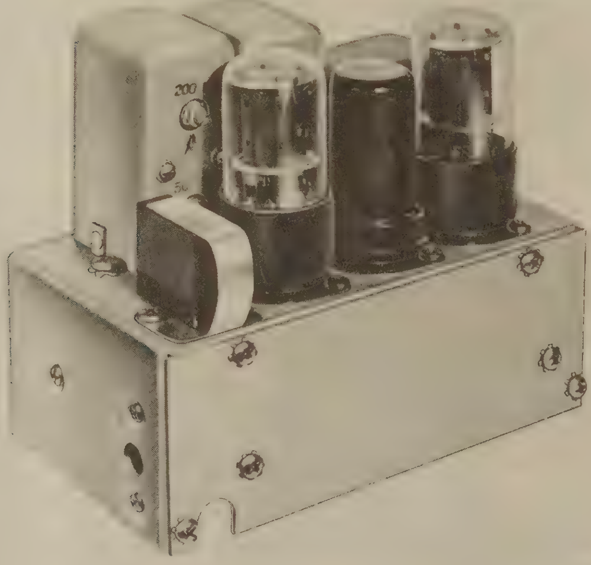
c. ANTENNA LOADING COILS AND SWITCHING UNIT.

(1) GENERAL.—When transmission frequencies in the 200 to 1500 kilocycle range are selected, the antenna tuning and loading circuits, built into the transmitter, are not used and the output of the power amplifier is automatically connected to the loading circuits in external loading coils. Controls are pro-

(1) GENERAL.—Sub-assembly type of construction has been used extensively in the radio transmitter. This type of construction greatly simplifies the removal of component parts without major disassembly of the unit. Vacuum tubes are accessible by removal of the top cover of the transmitter case.

The transmitter proper contains a high frequency oscillator which covers the frequency range 1000 to 1500 kilocycles. A band switch, control "A", connects the proper multiplier circuits to provide operation of the complete transmitter over the frequency range 2000 to 18,100 kilocycles. An internal crystal oscillator permits calibration of the master oscillator at points designated on the calibration tables. The antenna tuning network is incorporated in the transmitter for operation into aircraft antennas. When the radio transmitter is operated in the radio frequency range 3000 to 18,100 kilocycles, the antenna tuning network incorporated in the transmitter is capable of tuning and delivering power into fixed antennas which are between 17 and 65 feet in length. For operation between 2000 and 3000 kilocycles external shunt capacitors may be required in addition to the antenna tuning network in the transmitter to tune and deliver power to fixed aircraft antennas which are between 20 and 60 feet in length. Instructions describing correct use of the shunt capacitor unit are given in section II, paragraph 7*b*(2) (*jj*).

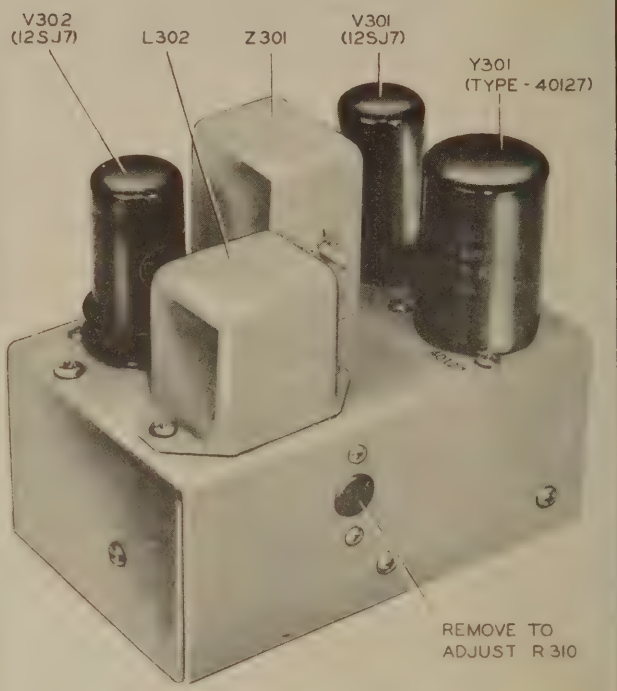
The mountings for the transmitters are shown in figures 2-6 and 2-7. Interchangeability of the mountings is given in the table of section I, paragraph 4.



Note

If this unit is installed, use calibration tables 5-1, 5-2 and 5-3 or tables in Calibration Book for Radio Transmitting Set AN/ART-13A (T.O. No. 16-30ART13-9). (If this unit is installed when Oscillator O-16/ART-13 is used, refer to par. 6A, section V for instructions for calibrating the oscillator.)

Figure 1-5—MCW-CFI 8Q-2 Unit



Note

If this unit is installed, use calibration tables 5-4, 5-5 and 5-6 or any one of editions 1 through 4 of the Calibration Book for Navy Model ATC or ATC-1.

Figure 1-6—MCW-CFI 8Q-1 Unit

Two types of crystal oscillators have been supplied with the transmitters. The MCW-CFI 8Q-1 unit is the original design. (See fig. 1-6.) The later design is known as the 8Q-2 unit. (See fig. 1-5.) The 8Q-2 unit has louder signals at the check points and the check points occur every 50 kilocycles on the master oscillator which spaces them evenly in the calibration tables for a particular band. The distance between them varies with different multiplication factors selected by the band change switch. Different calibration tables are furnished for the different MCW-CFI units in order to indicate the different check points. The figures in the tables are the same regardless of which MCW-CFI unit is used but the position of the check points varies. The units are interchangeable between transmitters providing the proper calibration table is used. Calibration tables 5-1, 5-2, and 5-3 are to be used only when the radio transmitter has an 8Q-2 installed.* (When the radio transmitter has an Oscillator O-16/ART-13 and MCW-CFI 8Q-2 unit installed, refer to par. 6A, section V for calibration instructions for the oscillator.) Calibration tables 5-4, 5-5, and 5-6 are to be used only when the radio transmitter has an 8Q-1 installed.* Determine which is installed before performing adjustments using calibration tables. A throughout the frequency range 1100 to 1500 kilocycles and 200 feet long throughout the frequency range 500 to 1100 kilocycles. In addition, it may be used for tuning long, fixed antennas in a restricted frequency range. Note that this loading coil is not applicable if Oscillator O-17/ART-13A is used.

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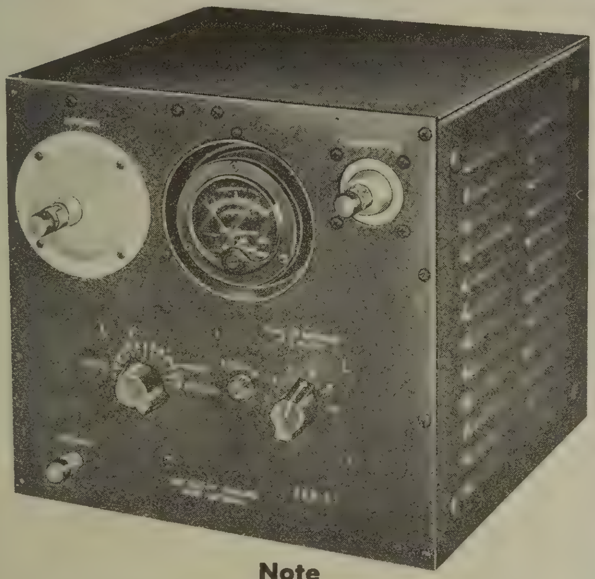
*Calibration tables 5-1 and 5-2 are the same tables which are in "Calibration Book for Radio Transmitting Set AN/ART-13A (T.O. No. 16-30ART13-9)." Calibration tables 5-5 and 5-6 are the same tables which are in editions 1 through 4 for Navy Model ATC.



Note

Late models were furnished without the meter.

Figure 1-10—Antenna Loading Coil CU-25/ART-13 (Navy Type -47281)

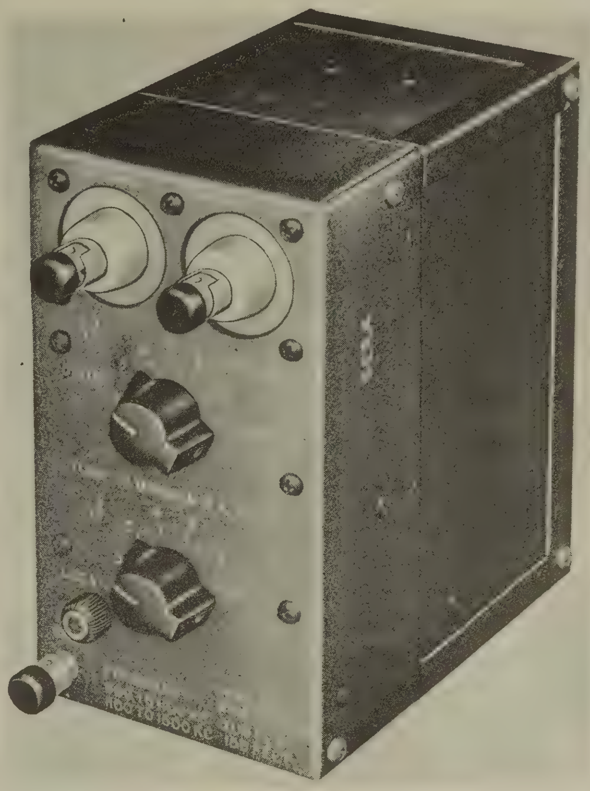


Figure 1-11—Antenna Loading Coil CU-26/ART-13 (Navy Type -47282)

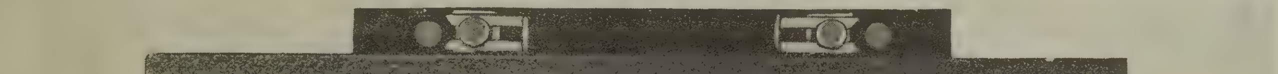


Figure 1-12—Antenna Switching Unit SA-22/ART-13

vided on the front panel of the loading coils to permit adjustment of inductive reactance and coupling in order to tune and deliver power to the antenna. A radio frequency ammeter is used in some loading coils to indicate antenna current. Selection of either the trailing wire or fixed aircraft antenna is accomplished by means of a switch knob located on the control panel. Terminal posts facilitate connections to a fixed aircraft antenna, trailing wire antenna, ground (structure of aircraft), the high frequency antenna terminal of the transmitter, the low frequency terminal of the transmitter, and to a 28 volt supply source which is controlled by the output circuit selecting relay (K-105) in the transmitter. The 28 volt d-c source is "keyed" by microphone or telegraph key and actuates a relay in the loading unit. This relay is actuated *only* when control "A" of the transmitter is set on position 13. This low frequency relay connects the aircraft antenna to the "LOAD COIL" terminal of the transmitter thru the circuits of the loading unit when the key or microphone button is pressed. Thus, automatic selection of the correct antenna tuning and loading system is accomplished for either high or low frequency operation when the transmitter controls are being set to the desired transmission frequency. When both the trailing wire antenna and the fixed antenna are connected to the loading unit, only one or the other is actually in use for any transmission frequency. The idle antenna is, at all times, automatically connected to a terminal post on the exterior of the control unit. This terminal (labelled "PLUG PL-259") may be connected to a dissociated receiver.

(2) ANTENNA LOADING UNIT CU-32/ART-13-A. (*See Fig. 1-9*).—The antenna tuning network, low frequency relay, and antenna selector switch are all incorporated in this unit. The network is capable of tuning any antenna (fixed or trailing) 30 to 200 feet in length throughout the range 200 to 600 kilocycles.

(3) ANTENNA LOADING COIL CU-25/ART-13 (*See Fig. 1-10*).—This unit contains a tuning network capable of tuning a trailing wire antenna 200 feet long throughout the range 200 to 600 kilocycles. It will, in addition, tune fixed antennas in the upper portion of that frequency range. Long antennas can be tuned to lower frequencies than short ones.

(4) ANTENNA LOADING COIL CU-26/ART-13 (*See Fig. 1-11*).—This unit contains a tuning network capable of tuning trailing wire antennas 150 feet long

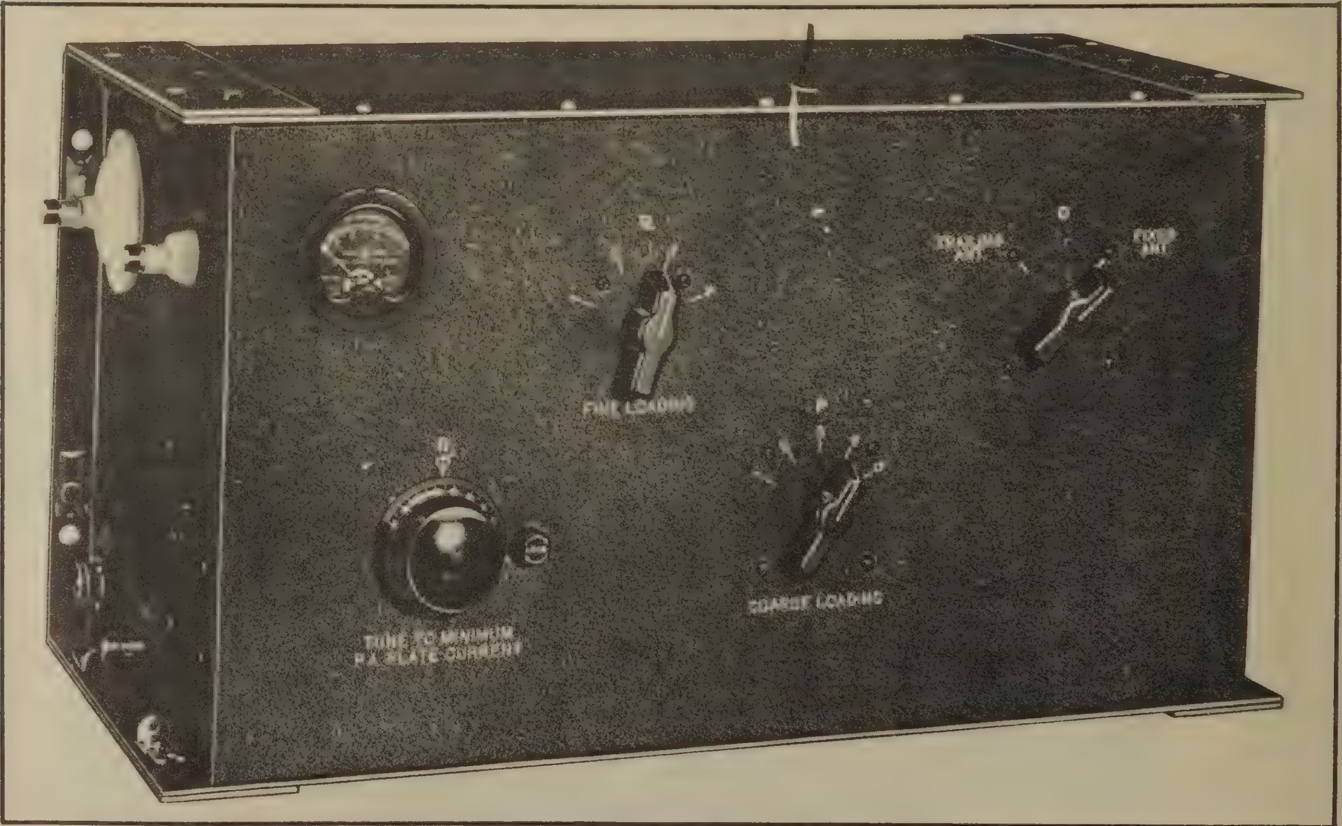


Figure 1-9—Antenna Loading Unit CU-32/ART-13A

(2) The dynamotor unit is the power source used for operation of the radio transmitter. It contains a dynamotor machine, barometric switch, control and overload relays, filters and fuse for overload protection of the plate and screen voltage supply circuits of the low power stages. A 28 volt direct current power source is required for operation of the dynamotor machine as well as for the circuits in the transmitter. Voltages as low as 24 volts d-c may be used but reduction in power output and increased time required for Autotune operation will result.

f. REMOTE CONTROL UNIT.—Control Unit C-87/ART-13 (see fig. 1-16) provides remote controls for operation of the transmitter. By means of the two knobs located on the face of the control unit, the following items may be controlled:

(1) Turn power supply on or off.

(2) Select type of emission (CW, MCW or VOICE).

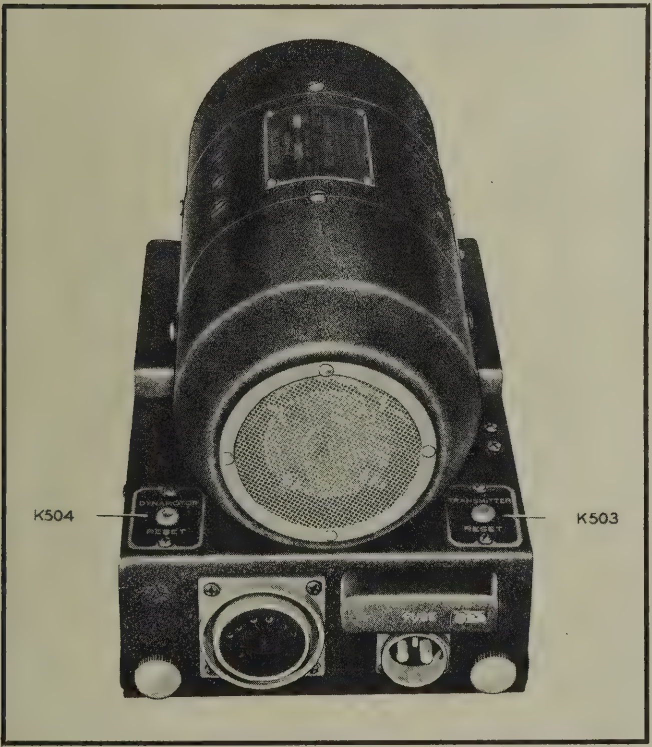


Figure 1-15—Dynamotor Unit DY-11/ART-13 (Navy Type -23333 Power Unit, with Dynamotor -21931)

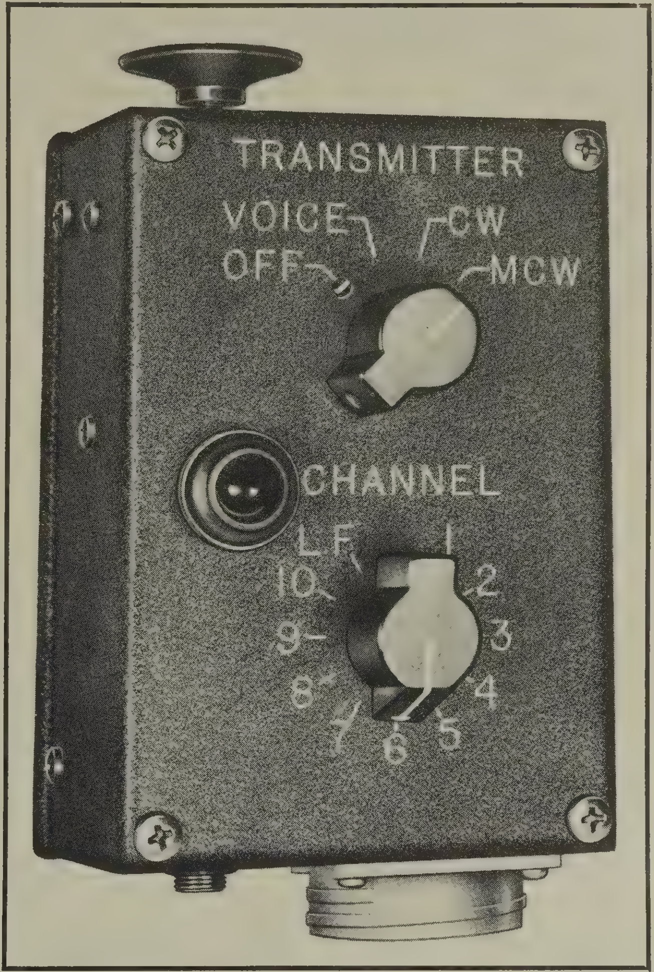


Figure 1-16—Control Unit C-87/ART-13 (Navy Type -23330)

(3) Select any one of 11 preset transmission frequencies.

Note

Transfer of control from the transmitter panel to the remote control unit is possible only at the transmitter.

g. ACCESSORIES.—Complete sets of Phillips and Bristo wrenches are supplied with the equipment. They are fastened beneath the cover of the transmitter or externally, under the plugs on those Radio Transmitters T-47/ART-13 with the MCW-CFI 8Q-2 Unit installed).

SECTION II
INSTALLATION AND ADJUSTMENT

1. UNCRATING RADIO TRANSMITTING SET AN/ART-13A.

Open packing crates as outlined. Use care to avoid damage and search all packing material to be sure that small packages are not overlooked. All crates are marked with arrows to indicate the upright position. Cut and remove banding around crates.

a. TRANSMITTER CRATE.—Keep in upright po-

(5) ANTENNA SWITCHING UNIT SA-22/ART-13 (*See Fig. 1-12.*)—This unit contains the antenna selector switch and the low frequency relay required for use with Antenna Loading Coil CU-25/ART-13 or CU-26/ART-13. When low frequency equipment is not included in the installation, Switch SA-13/U is used for the antenna changeover switch.

(6) MOUNTINGS.—Mounting Base MT-198/ART-13A (fig. 2-10) is supplied for mounting Antenna Loading Unit CU-32/ART-13A. Mounting plate MT-162/ART-13 (fig. 2-11) is supplied for mounting Antenna Loading Coil CU-26/ART-13. Mounting FT-142 is supplied for mounting Antenna Switching Unit SA-22/ART-13.

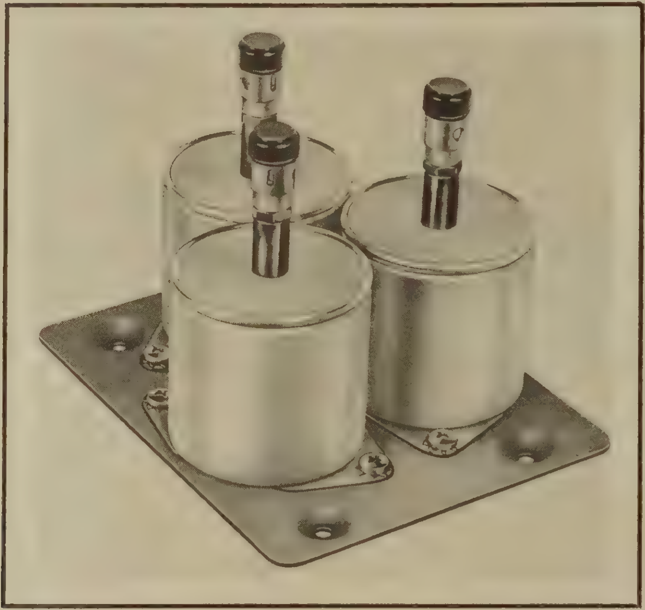


Figure 1-13—Antenna Shunt Capacitor CU-24/ART-13 (Navy Type -481628)

d. ANTENNA SHUNT CAPACITOR AND SWITCH.

(1) Antenna Shunt Capacitor CU-24/ART-13 (see fig. 1-13) is supplied for use with the transmitter. It is used whenever required (see sec. II, par. 7*b*(2)(*jj*)), to properly tune and deliver power to fixed aircraft antennas (20 to 60 feet long) operating in the 2000 to 3000 kilocycle range of transmission frequencies. The shunt capacitor unit consists of three individual 25 micromicrofarad capacitors mounted on a plate which serves as a common connection to one terminal of each unit. Each capacitor may be connected individually or collectively to the antenna system by means of the terminal at the top, thus providing capacitance values of 25, 50, or 75 micromicrofarads.

(2) Mounting holes are provided in the base of the antenna shunt capacitor to facilitate attachment to the aircraft structure.

(3) Switch SA-46/ART-13A (see fig. 1-1) is used to connect Antenna Shunt Capacitor CU-24/ART-13 to the transmitter output circuit ("COND" binding post) when it is required.

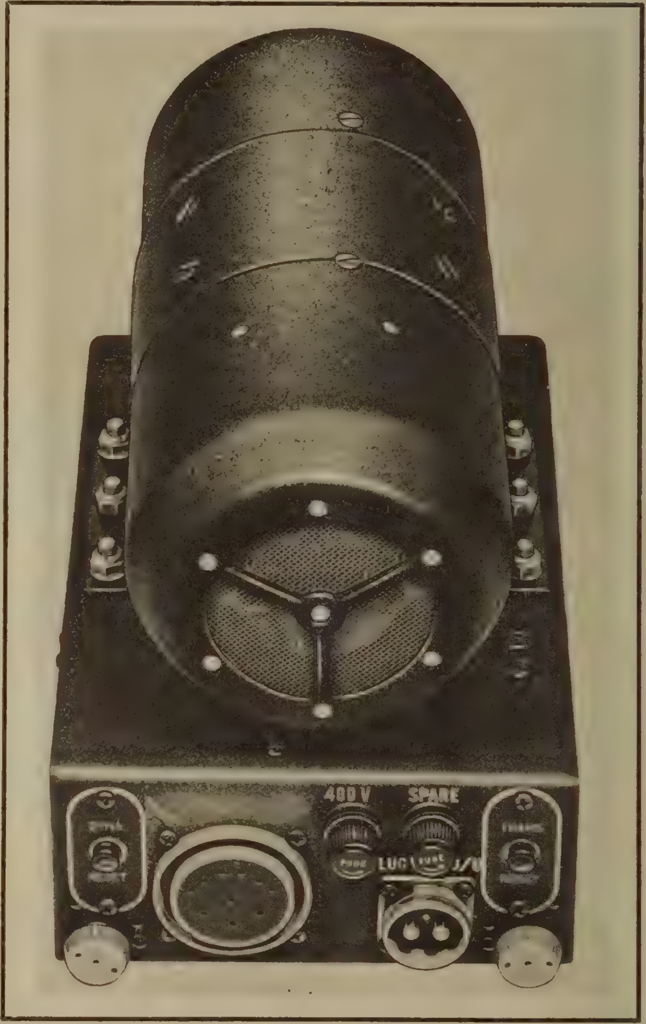


Figure 1-14—Dynamotor Unit DY-17/ART-13A

e. DYNAMOTOR POWER UNIT.

(1) Any one of the following dynamotor power units may be used with this equipment:

(*a*) Dynamotor Unit DY-17/ART-13A (fig. 1-14).

(*b*) Dynamotor Unit DY-12/ART-13 (Navy Model -23333 Power Unit, with Dynamotor -21932).

(*c*) Dynamotor Unit DY-12A/ART-13 (Navy Model -23333 or -23333-A plus -21932).

(*d*) Dynamotor Unit DY-11/ART-13 (Navy Model -23333 Power Unit, with Dynamotor -21931). (See fig. 1-15.)

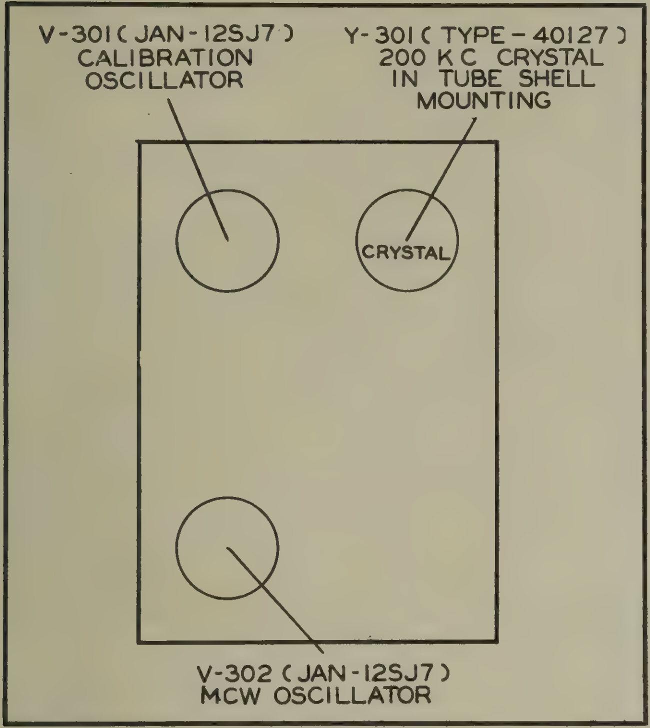


Figure 2-2—MCW-CFI 8Q-1 Unit—Tube Placement Diagram (see fig. 2-1)

3. Make sure the plate connector caps on all tubes employing them are in the proper position and firm.

4. If the low frequency oscillator is installed, remove the cover from the low frequency oscillator and check the tube for proper seating in the socket, and firm and proper connection of the plate cap. Replace the cover.

5. Check the vacuum switch to be sure it is not broken.

(*e*) Replace the top cover of the transmitter.

(2) DYNAMOTOR UNIT.

(*a*) Check the fuse and spare fuse to see that they are serviceable.

(*b*) Remove the bottom plate and check all relays and stand off insulators for broken parts.

(c) Check the relays by closing them by hand to see that they do not bind and are not bent.

(*d*) Make sure all circuit elements are mounted securely. Replace the bottom cover.

(*e*) Make sure the end cover mounting bolts are tight.

(3) CONTROL UNIT.

(*a*) Turn the switches to make sure they function properly and the knobs are not loose on the shafts.

(*b*) Press the key to check the spring action and make sure the mechanism does not bind and stick.

(*c*) Remove the back plate and inspect the switches for broken parts. Replace the plate.

(4) ANTENNA SHUNT CAPACITOR.

(*a*) Inspect to see that no parts are bent or broken.

(*b*) Check spring action of all terminals.

(5) ANTENNA LOADING UNIT CU-32/ART-13-A.

(*a*) Turn the switches to make sure they function properly and the knobs are not loose on the shafts.

(*b*) Check all terminals for broken parts and spring action.

(*c*) Remove the cover and inspect all switches for broken parts.

(*d*) Make sure that none of the leads are broken or bent in a manner that reduces spacing between leads or the case.

(*e*) Rotate the variometer ("TUNE TO MINIMUM PA PLATE CURRENT" knob) and make sure it does not bind.

(*f*) Make sure vacuum switch is not broken.

(*g*) Make sure micalex terminal board is not broken.

(*h*) Check all stand off insulators to see that none are broken and replace the cover.

(6) ANTENNA LOADING COIL CU-25/ART-13.

(*a*) Turn the switches to make sure they function properly and the knobs are not loose on the shafts.

(*b*) Check all terminals for broken parts and spring action.

(*c*) Remove the case by removing the screws around the extreme edge of the front panel. Inspect for broken parts.

(*d*) Make sure that none of the leads are broken or bent in a manner that reduces spacing between leads or the case.

(*e*) Rotate the variometer ("TUNE TO MINIMUM PA PLATE CURRENT" knob) and make sure it does not bind.

(*f*) Check all stand off insulators to see that none are broken. Replace the cover.

(7) ANTENNA LOADING COIL CU-26/ART-13.

(*a*) Turn the switches to make sure they function properly and the knobs are not loose on the shafts.

(*b*) Check all terminals for broken parts and spring action.

sition and remove cover of crate. Take off waterproof and foil bags. Remove cloth bags containing silica gel. Remove banding frame (holds transmitter to bottom of crate) by taking off 4 bolts. Lift transmitter out of crate.

b. DYNAMOTOR CRATE.—Keep in upright position and remove cover of crate. Remove waterproof and foil bags. Remove cloth bags containing silica gel. Remove 2 clamps holding dynamotor to base and lift out the dynamotor. Remove Kimpak wrapper.

c. CONTROL UNIT.—Remove cover of crate. Lift out cardboard carton containing the unit. Remove unit from carton and take off foil bag and Kimpak wrapper.

d. ANTENNA LOADING UNIT.—Remove cover of crate. Take off waterproof bag and Kimpak wrapper. Remove foil and waterproof bags. Open cardboard carton and take out cloth bags, containing Silica gel. Lift the unit out and remove Kimpak wrapper.

e. ANTENNA SHUNT CAPACITOR.—Remove cover of crate. Lift out cardboard carton containing the unit. Remove unit from carton and take off foil bag and Kimpak wrapper.

2. PREPARATION FOR INSTALLATION.

The equipment should be checked before installation to make sure that all parts are operating properly and that no damage occurred during shipment which might cause early failure in service.

a. MECHANICAL INSPECTION.

(1) TRANSMITTER.

(*a*) Rotate all switches on the face of the transmitter to see that they operate freely and the knobs are fastened tightly to their shafts.

(*b*) Inspect the terminals at the left end of the transmitter for proper spring action and broken parts.

(*c*) Inspect the case and mountings for dents or bent portions which might interfere with operation.

(*d*) Remove the top cover of the transmitter and

1. Make sure the crystal is in the proper position and clamped securely in place. (See fig. 2-1 when MCW-CFI 8Q-2 Unit is used; see fig. 2-2 when MCW-CFI 8Q-1 Unit is used).

2. Make sure all tubes are mounted securely in the sockets and that tubes JAN-811, JAN-1625, and JAN-837 are locked properly. (See fig. 2-1 or 2-2.)

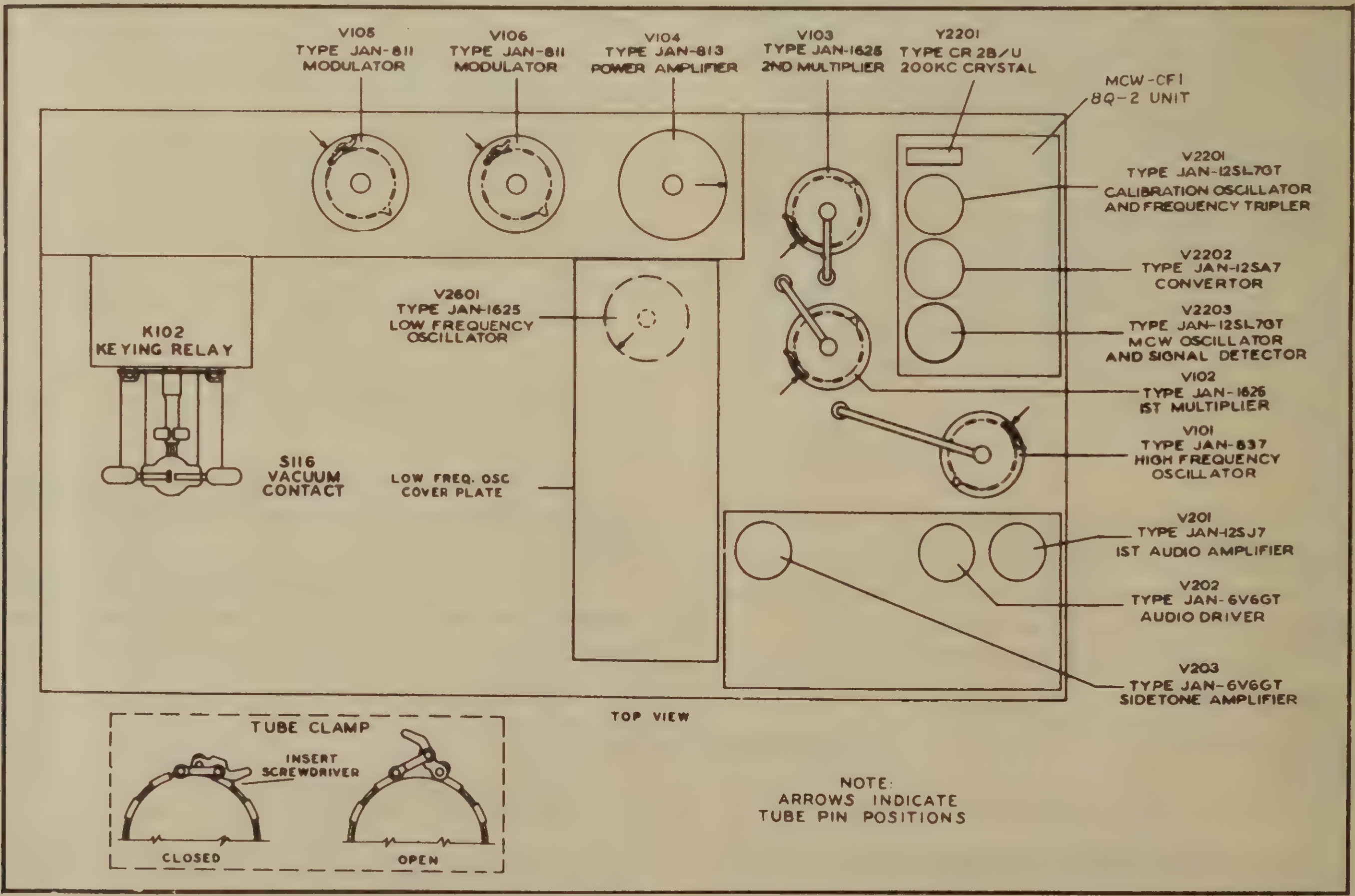

V105
TYPE JAN-811
MODULATOR
V106
TYPE JAN-811
MODULATOR
V104
TYPE JAN-813
POWER AMPLIFIER
V103
TYPE JAN-1625
2ND MULTIPLIER
Y2201
TYPE CR 28/U
200KC CRYSTAL
MCW-CFI
8Q-2 UNIT
V2201
TYPE JAN-12SL7GT
CALIBRATION OSCILLATOR
AND FREQUENCY TRIPLER
V2202
TYPE JAN-12SA7
CONVERTOR
V2203
TYPE JAN-12SL7GT
MCW OSCILLATOR
AND SIGNAL DETECTOR
V102
TYPE JAN-1626
1ST MULTIPLIER
V101
TYPE JAN-837
HIGH FREQUENCY
OSCILLATOR
V2601
TYPE JAN-1625
LOW FREQUENCY
OSCILLATOR
K102
KEYING RELAY
S116
VACUUM
CONTACT
LOW FREQ. OSC
COVER PLATE
V201
TYPE JAN-12SJ7
1ST AUDIO AMPLIFIER
V202
TYPE JAN-6V6GT
AUDIO DRIVER
V203
TYPE JAN-6V6GT
SIDETONE AMPLIFIER
TOP VIEW
TUBE CLAMP
INSERT
SCREWDRIVER
CLOSED
OPEN
NOTE:
ARROWS INDICATE
TUBE PIN POSITIONS

Figure 2-1—Radio Transmitter T-47A/ART-13 and Oscillator 0-17/ART-13A (or Oscillator 0-16/ART-13)—Tube Placement Diagram

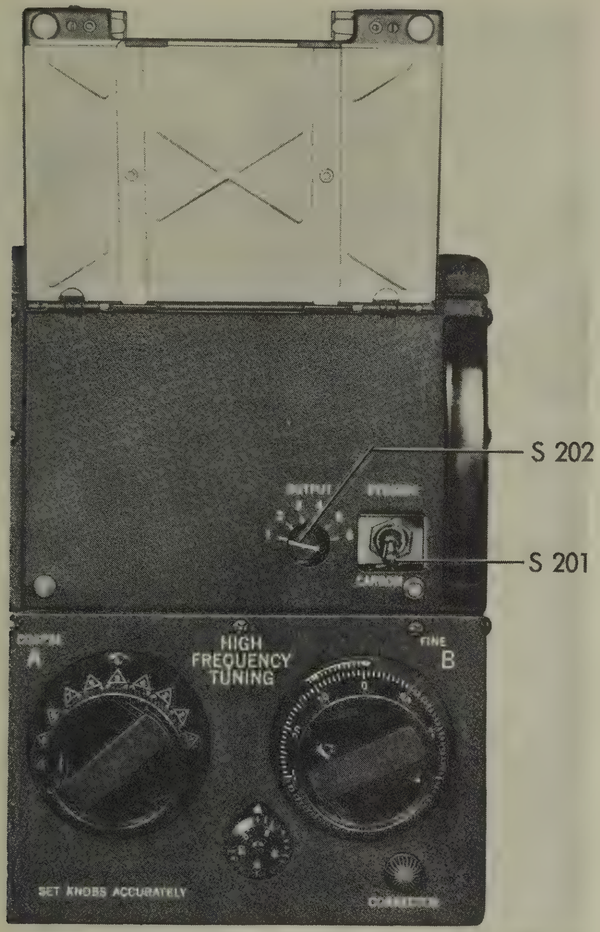
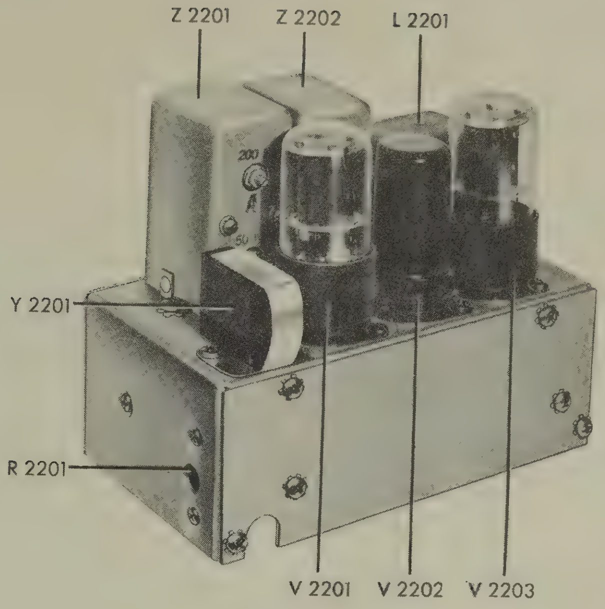

S 202
S 201
COARSE
A
HIGH FREQUENCY TUNING
FINE
B
SET KNOBS ACCURATELY
CORRECTION

Figure 2-3—Microphone Selector Switch and Sidetone Output Switch

(*g*) Place "EMISSION" switch on "MCW" position and close "TEST" switch. Power should be delivered to the antenna and the plate current meter should read 190 or higher. If this reading is not obtained, readjust the MCW control until a reading of at least 190 is secured. This screwdriver adjustment is located inside the transmitter and is reference number R-2201 when using the MCW-CFI 8Q-2 Unit (see fig. 2-4), and is reference number R-310 as shown in figure 2-5 when the transmitter employs the MCW-CFI 8Q-1 Unit.

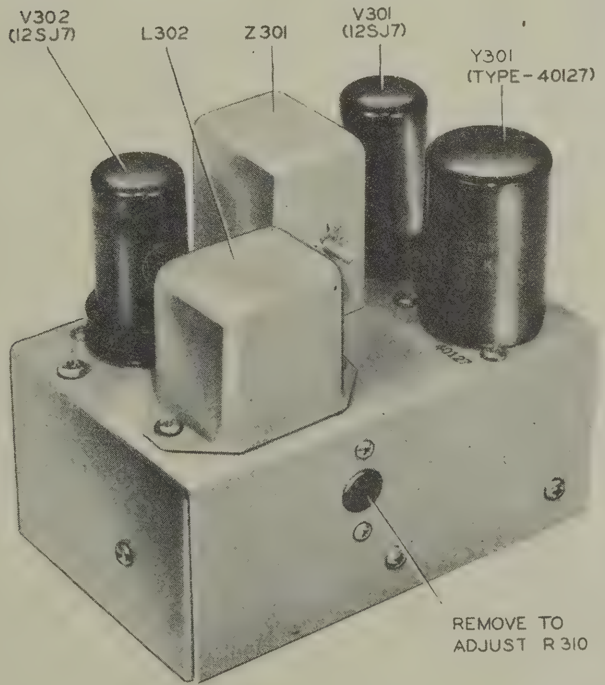
(*h*) Listen in the "SIDETONE 1" circuit and key the transmitter on "CW," "MCW," and modulate on "VOICE" position. The proper sidetone signal should be heard on all emission positions. Repeat with head sets plugged into the station box connected as a part of the mock-up. Lift the calibration chart the set "OUTPUT" switch S202 on each position in turn. (See fig. 2-3.) The proper sidetone signal should be heard on each position, being louder the higher the number of the switch position.


Z 2201
Z 2202
L 2201
Y 2201
R 2201
V 2201
V 2202
V 2203

Note

If this unit is installed, use calibration tables 5-1, 5-2 and 5-3 or tables in Calibration Book for Radio Transmitting Set AN/ART-13A (T.O. No. 16-30ART13-9). (If this unit is installed when Oscillator O-16/ART-13 is used, refer to par. 6A, section V for instructions for calibrating the oscillator.)

Figure 2-4—MCW-CFI 8Q-2 Unit—Showing R-2201


V302
(12SJ7)
L302
Z301
V301
(12SJ7)
Y301
(TYPE-40127)
REMOVE TO
ADJUST R310

Note

If this unit is installed, use calibration tables 5-4, 5-5 and 5-6 or any one of editions 1 through 4 of Calibration Book for Navy Model ATC or ATC-1.

Figure 2-5—MCW-CFI 8Q-1 Unit—Showing R-310

(*c*) Remove Mounting Plate MT-162/ART-13 (left side of case) by loosening the captive screws on the right side of the case. Inspect for broken parts.

(*d*) Make sure that none of the leads are broken or bent in a manner that reduces spacing between leads or the case.

(*e*) Rotate the variometer ("TUNE TO MINIMUM PA PLATE CURRENT" knob) and make sure it does not bind.

(*f*) Check all stand-off insulators and shaft insulators to see that none are broken.

(*g*) Replace Mounting Plate MT-162/ART-13.

(8) ANTENNA SWITCHING UNIT SA-22/ART-13.

(*a*) Turn the switches to make sure they function properly and the knobs are not loose on the shafts.

(*b*) Check all terminals for broken parts and spring action.

(*c*) Remove the cover and inspect the switch for broken parts.

(*d*) Make sure that none of the leads are broken or bent in a manner that reduces spacing between leads or the case.

(*e*) Rotate the variometer ("TUNE TO MINIMUM PA PLATE CURRENT" knob) and make sure it does not bind.

(*f*) Make sure micalex terminal board is not broken.

(9) CAPACITOR CONNECTING SWITCH.

(*a*) Inspect all ceramic parts to make sure none are broken.

(*b*) Check spacing of jumper leads to make sure it has not been shortened by improperly bent wires.

b. BENCH TEST.

(1) GENERAL.—Check the complete equipment for proper operation before installation in the aircraft. Where numerous installations are to be made, it is recommended that a test bench be set up.

Note

Adjustment procedures for the equipment must be thoroughly understood before making any of the following tests. (See paragraph 7, this section.)

(2) EQUIPMENT REQUIRED.

(*a*) Complete mock-up including all necessary cables and plugs and one station box with liaison position connected into the mock-up.

(*b*) A 28-volt direct current power source with a capacity of 35 amperes per transmitter being tested.

(*c*) Suitable phantom antenna (Antenna A-58).

(*d*) Head Set HS-33.

(*e*) Microphone T-17, or Microphone T-30 with Cord CD-318 or CD-508.

(*f*) Means for checking continuity. This may be a continuity meter or just a battery and light bulb.

(*g*) Plug PL-55 with the terminals shorted.

(3) TEST PROCEDURE.

(*a*) Connect the components in the bench mock-up with Antenna A-58 connected to the "FIXED ANTENNA" ("FIXED" terminal when using Antenna Switching Unit SA-22/ART-13) terminal on the antenna loading unit.

(*b*) Turn "EMISSION" switch to "VOICE" position and "CHANNEL" switch to position "1".

(*c*) Set the antenna selector switch on the antenna loading unit on "FIXED ANT." position ("FIXED" when using Antenna Switching Unit SA-22/ART-13) and the switch on Antenna A-58 on position "4." Set and lock the transmitter controls on 2400 kilocycles (control "A" on 1) on channel 1 in accordance with the operating instructions for CW operation and using the crystal frequency indicator. Check "P.A.GRID" meter reading to make certain the grid drive to the final amplifier tube is within limits.

(*d*) Cycle the autotune into channel 1 by moving "CHANNEL" switch to position "2" until the autotune motor starts and then back to position "1." Close "TEST" switch after cycling is completed. The "P.A. PLATE" reading should be very close to that obtained when the channel was set up.

(*e*) Plug the shorted Plug PL-55 into "T.S." jack and "KEY" jack in turn. Power should be delivered to the antenna in each case.

(*f*) Lift the calibration chart on the face of the transmitter and make sure that microphone selector switch S201 is in the "CARBON" position and safety wired. (See fig. 2-3.) Turn "EMISSION" switch to "VOICE," plug the microphone into "MICROPHONE" jack, and press the button. Power should be delivered to the antenna and the plate current should be slightly above that for CW operation. Speak or whistle into the microphone. Plate current should rise near or higher than the "MCW" area on the meter with modulation.

(2) To install the unit on Mounting Bases MT-161/ART-13, the transmitter must be equipped with the two channel shock mounts and the perforated tray. After the mounting bases have been installed in the aircraft in accordance with figure 5-2, either slide the transmitter in from the front or set the unit on top of the mounting bases approximately 2 inches forward of its proper position. Slide the unit back as far as it will go and lock it by turning the knobs on the front of the transmitter in a clockwise direction until they are tight. Fasten the locking knobs in position with safety wire.

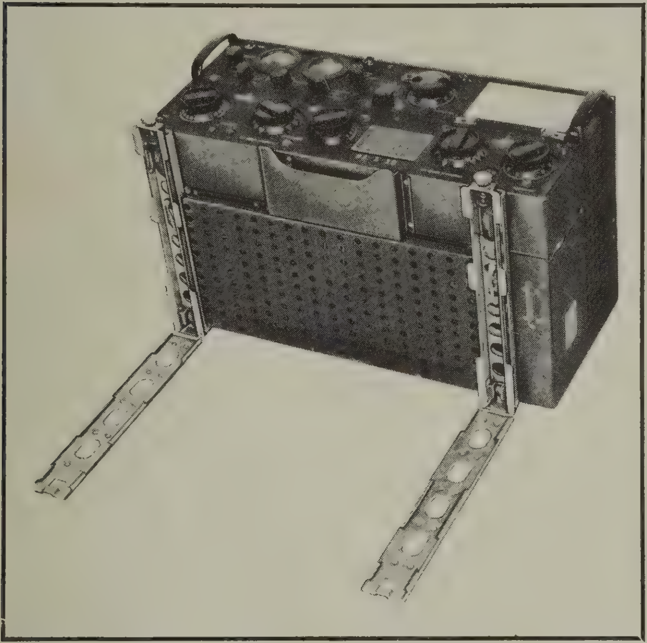


Figure 2-7—Radio Transmitter T-47/ART-13 with Mounting Base MT-161/ART-13 (Navy Type -52286 Transmitter)

b. DYNAMOTOR UNIT.—Locate the dynamotor unit in such a position that it will be possible to reach the "RESET" buttons and the "FUSE" on the front of the unit while in flight. Both ends must be at least three inches from a flat surface to provide sufficient ventilation.

Figure 5-3 shows outline dimensions, plug clearances, bonding and mounting hole positions and sizes for Dynamotor Unit DY-17/ART-13. Similar information for Dynamotor Units DY-11/ART-13, DY-12/ART-13 and DY-12A/ART-13 is contained in figure 5-4.

To install the dynamotor unit on the mounting plate, set it on the mounting and slide it backward until the holding pins are engaged, then tighten the two locking knobs on the front of the unit by turning them clockwise.

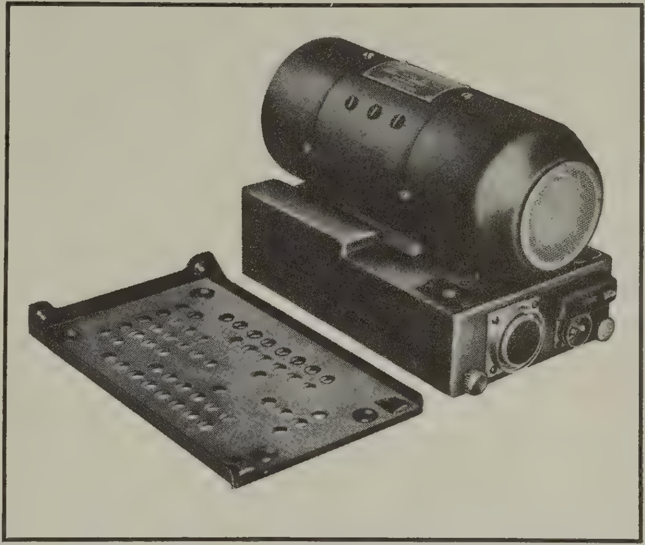


Figure 2-8—Dynamotor Unit DY-17/ART-13A with Mounting Plate MT-164/ART-13

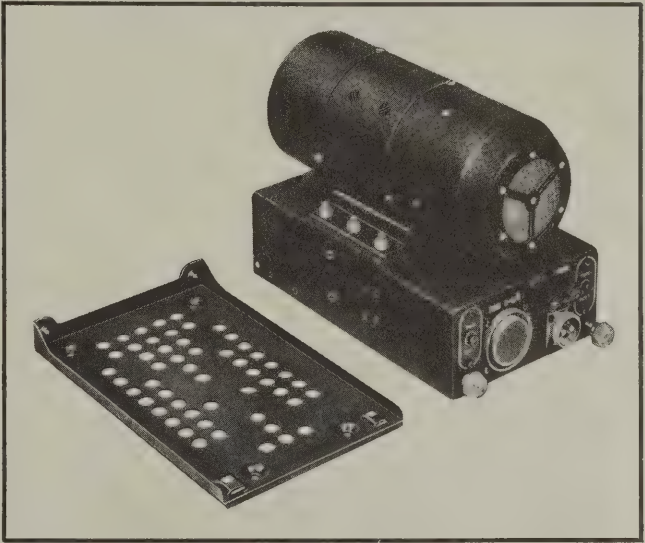


Figure 2-9—Dynamotor Unit DY-11/ART-13 (Navy Type -23333 Power Unit, with Dynamotor -21931)—with Mounting Plate MT 164/ART-13

(1) Safety wire Dynamotor Unit DY-11/ART-13, DY-12/ART-13, or DY-12A/ART-13 by wiring the two locking knobs together. See figure 2-9.

(2) Safety wire Dynamotor Unit DY-17/ART-13 by passing the wire through one of the holes in the knob and the hole in the corner of the filter and relay box. See figure 2-8.

c. ANTENNA LOADING EQUIPMENT FOR LOW FREQUENCY OPERATION.—For the frequency range 200 to 600 kilocycles either Antenna Loading Unit CU-32/ART-13A with its associated Mounting Base MT-198/ART-13A or Antenna Loading Coil CU-25/ART-13 and Antenna Switching Unit SA-

(*i*) Set up and lock the other channels of the autotune by loading the transmitter into the phantom antenna, with controls "A" and "B" set as follows:

Channel	*A*	*B*
2	2	200
3	3	100
4	4	060
5	5	100
6	6	100
7	7	100
8	8	100
9	9	100
10	10	100

(*j*) Place the switch on Antenna A-58 on position "3."

(*k*) Set up the "L.FREQ." channel on 400 kilocycles using the internal CFI.

(*l*) Place the switch on Antenna A-58 on position "4."

(*m*) Place "CHANNEL" switch on "MANUAL," power level switch on "TUNE," meter switch on "P.A. GRID," control "B" on 100, control "C" on 13, control "A" on 11, and close "TEST" switch. The meter should read in or slightly above the lightly shaded area under "P.A.GRID." Repeat with control "A" on position 12.

(*n*) If the installation includes the antenna shunt capacitor, close its connecting switch and tune the transmitter near 2300 kilocycles. Open the switch.

(*o*) Turn "EMISSION" switch to "OFF."

(*p*) Change the phantom antenna lead from the "FIXED ANTENNA" ("FIXED" terminal on Antenna Switching Unit SA-22/ART-13.) terminal on the antenna loading unit to the "TRAILING ANTENNA" ("TRAILING" terminal on Antenna Switching Unit SA-22/ART-13) terminal and set the switch to the "TRAILING ANT." ("TRAILING position on Antenna Switching Unit SA-22/ART-13) position.

(*q*) If the installation includes the remote control unit, set "LOCAL REMOTE" switch on "REMOTE" position, the emission switch on the remote control unit on "VOICE," and "CHANNEL" switch on position "1." Then place the emission switch on "CW." Wait for the light on the control unit to come on.

(*r*) Press the key on the control unit. Power should be delivered to the antenna and the meter should read in the area marked "CW." Meter readings should be very close to those obtained previously.

(*s*) Check operation on "VOICE" from the control unit by means of its emission switch and the microphone jack on it.

(*t*) Select channels "2" to "L.F." on the control unit in turn, closing the key each time the autotune completes cycling. Operation should be normal on each; meter readings, plate and antenna, should be very close to those obtained previously.

(*u*) Disconnect the wires from the "ANT." and "LOAD COIL" posts and check continuity between the "RECEIVER" and ground posts. They should be open with the key up and closed with the key down. Remove the input plug from the dynamotor unit and then check continuity between the "ANT" and "RECEIVER" posts. They should be connected.

3. INSTALLATION.

a. TRANSMITTER.—Mount the transmitter at a height convenient for operation of the controls. Outline dimensions, ventilation provisions, clearances required for operation and removal, bonding and mounting hole sizes and placement are shown in figures 5-1 and 5-2.

(1) To install the unit on Mounting Base MT-284/ART-13, the transmitter must be equipped with Mounting Plate MT-283/ART-13. After Mounting Base MT-284/ART-13 has been installed in the aircraft in accordance with figure 5-1, set the transmitter on the mounting with the channels engaged, slide it backwards to engage the holding pins and tighten the locking knobs on the front of the transmitter by turning them clockwise until tight. Be sure the holding pins on the back of the unit engage the proper holes before tightening the locking knobs. Safety wire the locking knobs in position.

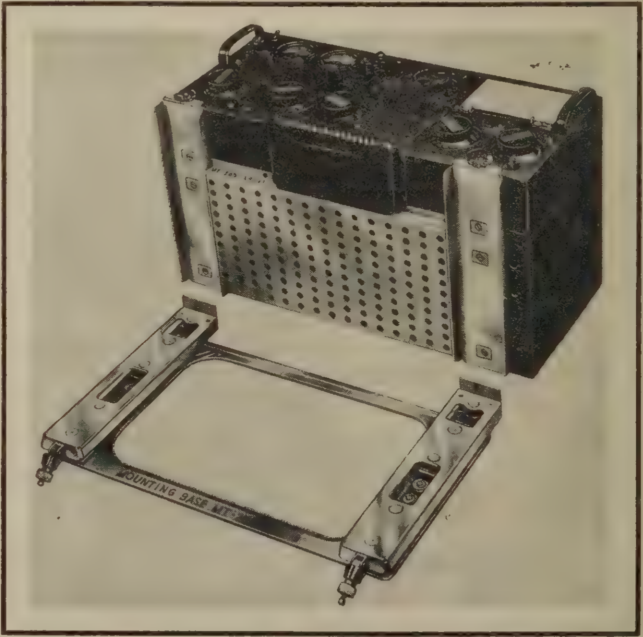


Figure 2-6—Radio Transmitter T-47A/ART-13 with Mounting Base MT-284/ART-13 and Mounting Plate MT-283/ART-13

(*b*) Fasten the mounting to the aircraft and then mount the unit by means of the four snap slides. Safety wire and the snap slides in position.

(*c*) Connect a two-conductor cable between the antenna switching unit and the transmitter. Insert the male connector Plug U-11/U into the transmitter and the female connector, Plug U-12/U, into the receptacle on the switching unit.

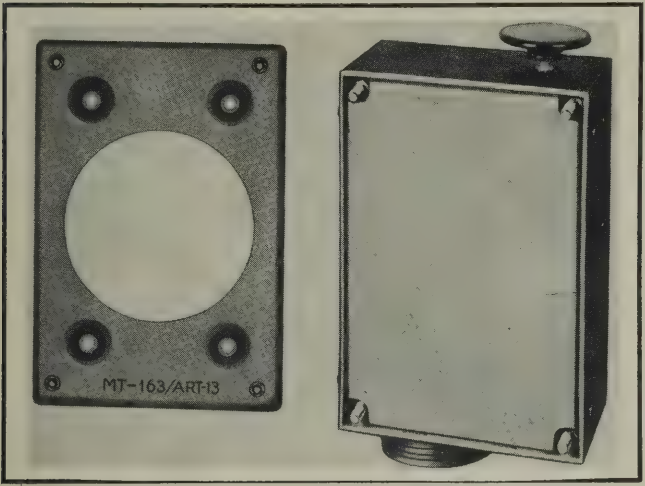


Figure 2-12—Control Unit C-87/ART-13 with Mounting Plate MT-163/ART-13 (Navy Type -23330)

d. REMOTE CONTROL UNIT. (See figure 2-12.) Locate the control unit so that the controls are easily accessible to the operator. Mount it with the key upward leaving sufficient space for operation of the key.

(1) See figure 5-11 for outline dimensions, plug clearances and mounting hole positions and sizes.

(2) To mount the control unit on the mounting plate, place the unit on the mounting and tighten the four screws, one in each corner.

e. ANTENNA SHUNT CAPACITOR AND CONNECTING SWITCH.

(1) Locate the units as near the left end of the transmitter as possible. Place the switch between the unit and the transmitter in such a position that it can be operated during flight and so vibration will not cause it to close. The total length of leads from the transmitter to the capacitor shall not exceed 12 inches.

(2) See figure 5-12 for antenna shunt capacitor outline dimensions, bonding and position and size of mounting holes. See figure 5-13 for shunt capacitor connecting switch outline dimension.

f. ANTENNAS AND LEAD INS.—Antenna Equipment AN/ARA-4 has been designed for use with this transmitting equipment and its associated receiving equipment (Radio Receiving Set AN/ARR-11.) Use number 10 bare copper wire for connecting the transmitting antenna circuits inside the plane. Space the wires at least 1½ inches from any other metallic object. Use Beads IN-83 for additional protection where required.

4. INTER-UNIT CONNECTIONS.

a. Make up the inter-unit connections when installing the equipment. A drawing of a typical wiring diagram for Radio Transmitting Set AN/ART-13A is shown in figure 5-15. Typical wiring diagram for Radio Transmitting Set AN/ART-13 is shown in figure 5-16.

b. Cut the wires to the proper length for the installation involved.

c. Allow enough additional length for each cable so that the cable is not tight enough to interfere with the action of the shock mounts or to damage the connectors.

d. Figure 5-14 shows the dimensions of the plugs and outlines the method of connecting wires to the terminals.

e. Insert each plug into the corresponding socket in the equipment. Sockets are marked with the nomenclature of the proper plug.

f. Tighten the locking rings on all plugs and safety wire them in place.

5. INSPECTION AND TEST AFTER INSTALLATION.

a. Inspect the inter-connections to check them for conformity to the mock-up of the particular installation.

b. Check the knurled knobs on the front of the transmitter and dynamotor unit, the microphone selector switch under the chart and all connector plug locking rings for presence of safety wiring.

c. Inspect the antenna for proper security and tension.

d. Check the connections to the receiver, antenna ground and loading unit, making certain the spring connector terminals are making good contact with the wires.

e. Check all components for security of mounting.

f. Set up the frequencies to be used in the flight test on the channels desired according to the procedure given in paragraph 7, this section.

g. If low frequency equipment is installed, set up one frequency in the range 200 to 600 kilocycles and check for proper operation (see subparagraph 7*b*, (4) and 7*c* (3), this section).

h. Cycle each channel in turn and check each for proper operation on "CW" by closing the key and noting the plate current for each. Plate current with the meter switch is "P.A. PLATE" position should be in the area marked "CW." Do not leave the key down any longer than necessary.

22/ART-13 with Mounting FT-42 may be used. For the frequency range 500 to 1500 kilocycles, use Antenna Loading Coil CU-26/ART-13 with Mounting Plate MT-162/ART-13 and Antenna Switching Unit SA-22/ART-13 with Mounting FT-142. If operation below 2000 kilocycles is not required in the installation, install Switch SA-13/U in place of loading or switching units. For outline dimensions, see figure 5-10.

Mount the loading and switching units within easy reach of the operator. Provide at least 6 inches of clearance between electrical terminals on each side of the units and surrounding objects.

(1) ANTENNA LOADING UNIT CU-32/ART-13A AND MOUNTING BASE MT-198/ART-13A.

(*a*) Figures 5-5 and 5-6 show outline dimensions, required clearances, mounting hole locations, and bonding instructions for these units. The loading unit may be attached to the mounting plate in either of the positions shown. Snap slides are used to secure the loading unit to the mounting base. Duplicate sets of snap slides are provided on the top, back, and bottom of the loading unit case. Thus, the mounting base may be located above or below the loading unit, and the unit may be mounted facing out, up, or down.

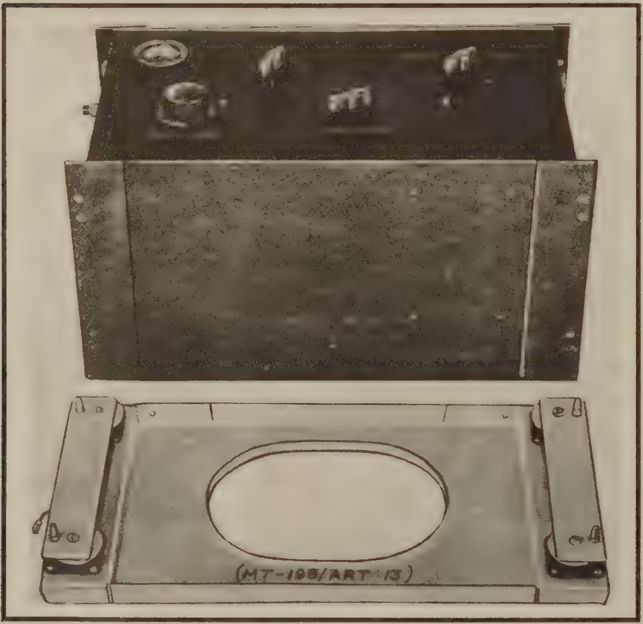


Figure 2-10—Antenna Loading Unit CU-32/ART-13A with Mounting Base MT-198/ART-13A

(*b*) The mounting base is mounted on the structure of the aircraft by means of eight ¼ screws (see fig. 5-4 for location of holes.)

(*c*) After the mounting base has been installed, place loading unit in position on mounting base and secure by closing all four snap slides (one on each corner of the case.) Safety wire the four snap slides.

(2) ANTENNA LOADING COIL CU-25/ART-13 (NAVY TYPE -47281).
(*See Fig. 1-10.*)

(*a*) Figure 5-7 shows the outline dimensions and the distances between centers of the mounting holes. The loading coil may be mounted using holes on either of the two sides, top, bottom or rear of the case.

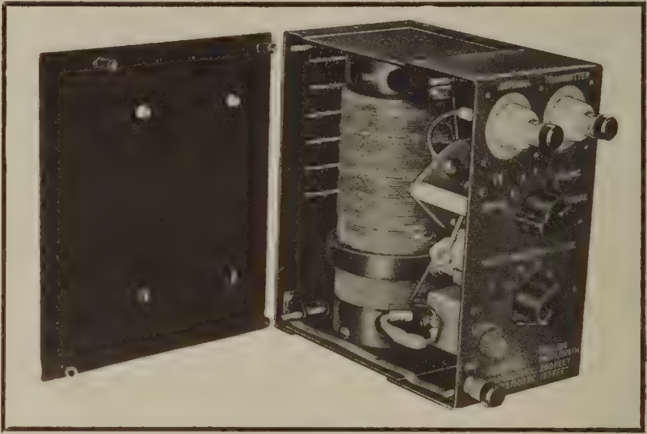


Figure 2-11—Antenna Loading Coil CU-26/ART-13 with Mounting Plate MT-162/ART-13 (Navy Type -47282)

(*b*) To mount the case, remove the front panel by removing the panel securing screws and pulling the panel forward. All unit components are attached to the panel; therefore, the removal of the front panel leaves the case free for mounting. Approximately 11⅛ inches clearance between the unit front panel and nearest obstruction is necessary for removal of the unit from the case.

(3) ANTENNA LOADING COIL CU-26/ART--13 (NAVY TYPE -47282).
(*See Fig. 2-11.*)

(*a*) Figure 5-9 shows the outline dimensions and the distances between centers of the mounting holes. Mounting Plate MT-162/ART-13 is used to mount the unit. That plate is a part of the case (the left side) of the unit and is, therefore, delivered installed on the unit.

(*b*) To mount this unit, remove Mounting Plate MT-162/ART-13 by loosening the four captive screws on the right side of the unit and fasten the mounting plate to the structure of the aircraft. Fasten the unit to the mounting plate by means of the captive screws.

(4) ANTENNA SWITCHING UNIT SA-22/ART-13.

(*a*) Figure 5-8 shows the outline dimensions and position and size of mounting holes. Mounting FT-142 is used to mount the unit.

the decimal point opposite the zero line on the vernier scale. Then note the line on the vernier scale that corresponds to the figure to the right of the decimal point and rotate the dial slightly in a clockwise direction until that line of the vernier is lined up with the first line on the dial that approaches it. For example, opposite 3410 kc the reading under B in the table is 1114.1 To obtain this setting of control "B," rotate the dial until the revolution counter indicates that the control has been rotated 11 full revolutions from the zero setting (see fig. 2-13); then continue to rotate the control until 14 on the dial appears opposite the zero line on the vernier scale, note line 1 on the vernier scale and further rotate the dial until the first line (15) on the dial lines up with line 1 on the vernier.

Note

> Radio Transmitter T-47/ART-13 (Type -52286) cannot be set up as accurately as Radio Transmitter T-47A/ART-13 since no vernier was supplied and calibration tables are not as accurate.

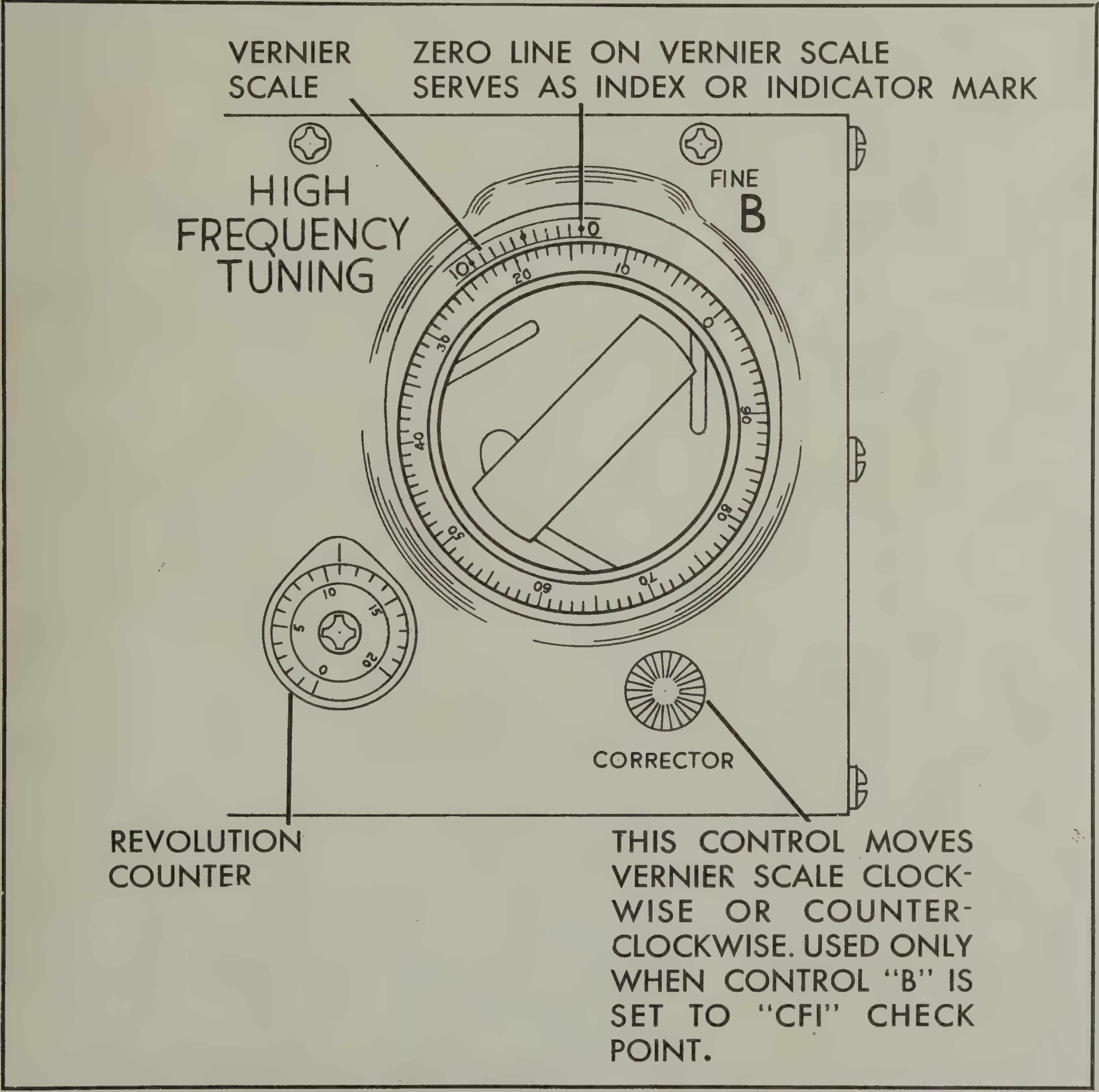

VERNIER SCALE
ZERO LINE ON VERNIER SCALE SERVES AS INDEX OR INDICATOR MARK
HIGH FREQUENCY TUNING
FINE
B
0
10
20
10
30
40
50
60
70
80
90
0
5
10
15
20
CORRECTOR
REVOLUTION COUNTER
THIS CONTROL MOVES VERNIER SCALE CLOCKWISE OR COUNTER-CLOCKWISE. USED ONLY WHEN CONTROL "B" IS SET TO "CFI" CHECK POINT.

Figure 2 13—Illustration Showing Setting of Control "B" to 114.1 Per Example in the Text *i.* Check "VOICE" and "MCW" operation on one frequency.

j. If remote control is included in the installation, cycle each channel from the control Unit with the "LOCAL-REMOTE" switch in the "REMOTE" position. Check "VOICE," "CW" and "MCW" operation on one channel from the remote control unit.

k. Turn on the receiver, make sure the "NORMAL-MONITOR" switch is in the "NORMAL" position, and listen in the liaison position of the jack box. The receiver hiss should be heard with the key up; the proper transmitter sidetone signal should be heard with the key down. Set the "OUTPUT" switch under the calibration chart on the position that gives the proper volume of sidetone signal when the transmitter is being keyed or modulated.

l. Tune the receiver for CW operation ("CW.OSC") switch in the "ON" position on one of the frequencies set up on the transmitter. Set "NORMAL-MONITOR" switch (normally on "LIAISON" junction box) in "MONITOR" position and turn the power level switch on the transmitter to "CALIBRATE" position. It should be possible to hear a beat note and to tune the beat note to zero by rotating the receiver dial. Return the power level switch to "OPERATE" and the "NORMAL MONITOR" switch to "NORMAL" position.

m. Establish communication with the ground station on each frequency to be used in the flight test.

6. FLIGHT TEST.

During the airplane test flight, establish communication with the ground station on both fixed and trailing wire antennas. The transmitter should be operated a minimum length of time on a regularly assigned test frequency.

7. ADJUSTMENTS.

WARNING

> Operation of this equipment involves use of high voltages which are dangerous to life. Operating personnel must observe all safety regulations. Whenever the dynamotor is running, there is a potential of 1150 volts applied to the plate caps on top of the tubes.

a. USE OF CALIBRATION TABLES.

(1) The low-frequency and high-frequency oscillators are electron coupled with no provision made for crystal control of the frequency of either oscillator. Therefore, a crystal controlled frequency standard has been incorporated in the equipment to be used for the calibration of the variable frequency oscillators.

(2) Detailed oscillator calibration tables 5-1, 5-2, and 5-3 are included in section V for the crystal frequency indicator (MCW-CFI 8Q-2 Unit, shown in figure 2-4) delivered with Radio Transmitter T-47A/ART-13. Tables for the old crystal frequency indicator MCW-CFI 8Q-1 Unit are 5-4, 5-5, and 5-6, as delivered with some Radio Transmitters T-47/ART-13 (Navy Type -52286) and illustrated in figure 2-5. Calibration instructions for Oscillator O-16/ART-13, when MCW-CFI 8Q-2 unit is installed in the transmitter, are included in paragraph 6A, section V.

Note

Be sure to use the correct table.

Calibrating frequency "check points" have been indicated in the calibration tables by printing them in heavy black type. When checking the calibration, it is necessary to use the check point which is numerically nearest to the transmission frequency that is to be used. In calibration tables 5-1 and 5-2 horizontal lines appear at intervals in the columns which serve to indicate the direction of the nearest check point. In these tables always use the check point which appears between the same horizontal dividing lines that the desired frequency appears between. In calibration tables 5-3, 5-4, 5-5, and 5-6 use the first check point (heavy type) that is encountered by either looking back to succeedingly lower frequencies or by looking ahead to succeedingly higher frequencies. A note is included at the bottom of each table which will aid in locating the correct check point.

(3) The check points are frequencies at which audio beat notes between the output of the low-frequency oscillator or the output of the high-frequency oscillator and the harmonics of the CFI unit may be heard. These "beat notes" are used for setting the dial and the movable indicator mark in adjusting for proper calibration of the oscillator. The frequencies in the tables are given in kilocycles with the control positions in columns opposite the frequency. The numbers in columns B or G may be considered as combination numbers. For control "G," the hundreds figures (the one or two figures in the third and fourth positions to the left of the decimal point as underlines in the following example 724.6 or 1536.4) are set on the revolution counter near the control and the rest of the number is set on the dial, estimating the figure to the right of the decimal and setting it between divisions on the dial. For control "B," the hundreds figures are set the same as for control "G," the two figures immediately to the left of the decimal point (724.6 or 1536.4) are set on the dial and the figure to the right of the decimal point (724.6 or 1546.4) is set by means of a vernier. To obtain the settings given in the columns under B and G (B and G represent both dial designation and calibration table column heading) rotate the control until the revolution counter indicates the proper number of full revolutions and the dial indicates the fraction of a revolution. For accuracy in setting control "B," a vernier scale has been provided. To use the vernier, set that part of the number to the left of

trol "B" on the position which gives zero beat and turn the power level switch to "TUNE" position.

(m) Set the venier scale or single index mark by means of the "CORRECTOR" knob near control "B" to the reading of control "B" found in column B at this crystal point.

(n) Refer to the calibration table and obtain the correct setting of control "B" for the desired operating frequency.

Note

Be sure to use the correct tables. For radio transmitters with the MCW-CFI 8Q-2 Unit installed use tables 5-1, 5-2, and 5-3; for radio transmitters with the MCW-CFI 8Q-1 Unit installed use tables 5-4, 5-5, and 5-6. (When the MCW-CFI 8Q-2 Unit is installed in the transmitter and Oscillator O-16/ART-13 is used, refer to par. 6A, section V for instructions for calibrating the oscillator.)

(o) Set control "B" to the reading obtained above.

(p) Lock control "A" by first noting its reading, rotating dial counterclockwise one-quarter turn, or against the stop if the stop is within one-quarter turn, and then rotating it clockwise to, but not past the reading on which it had been set. Hold the knob and turn the locking bar clockwise until it is tight with a firm but not heavy pressure. Repeat this procedure for control "B." Further pressure on either control in a clockwise direction should not cause the dial to move beyond the original setting. If it does, unlock and repeat the locking procedure, making certain the original dial settings are used. (If manual operation is being used, the locking bars should not be bothered.

(q) Place "EMISSION" switch on "CW" position.

(r) Check the grid drive to the final amplifier by placing the meter switch on "P.A.GRID" position, closing "TEST" switch, and noting the reading on the meter. It should read in, or slightly above, the light colored area marked "P.A.GRID." If it does not, operation is not normal. Control "A" may not have been positioned accurately. Check the trouble before proceeding. See "Note" in subparagraph *(hh)* following.

(s) Place the meter switch on "P.A.PLATE" position.

(t) Place control "D" on zero.

(u) Hold "TEST" switch closed and rotate control "E" throughout its range, seeking a plate current dip indicating resonance of the circuit.

CAUTION

Do not move control "E" across the space between 100 and 200 or between 0 and 100 while "TEST" switch, microphone button, or key is closed. An internal switch will be damaged if this precaution is not followed.

(v) If no resonance dip is found, set control "C" on the next higher position and rotate control "E" again, seeking a dip in plate current.

(w) Repeat the instructions in subparagraph *(v)* above until the resonance dip is found or until control "C" is set on position 8 and resonance has not been found.

Note

If frequency of operation is below 3000 kilocycles see instructions in subparagraph *(jj)* following.

(x) If resonance was found on positions 1 to 7 inclusive on control "C", place the power level switch in "OPERATE" position.

(y) Load the power amplifier by increasing the reading on control "D" in steps, re-resonating with control "E" each time. When control "D" has been rotated throughout its range, set control "C" on the next higher position, control "D" on zero, and repeat. Continue this process until the resonance dip falls in the light colored area marked "CW" on the plate meter. Correct loading of the final amplifier tube, when a 28-volt primary voltage is used, is 100 on the plate meter. It may not be possible, in all cases to load the amplifier tube exactly to this value, but any value of loading which is in the light colored area marked "CW" will be satisfactory.

Note

If the resonance dip causes the plate current to fall to a very low value, control "C" may be set to the next higher position without moving control "D," always re-resonating with control "E" each time as before. Fine adjustment must still be made by means of control "D." On antennas more than 55 feet in length and on frequencies below 3000 kilocycles it may not be possible to load the final amplifier to the light area marked "CW" before control "E" reaches zero. If this happens, set control "E" on zero and resonate with control "D." This will give the best operation obtainable under these conditions.

(z) If resonance was not found before control "C" was set on position 8, leave control "C" on position 8, set control "E" on zero, and seek the resonance dip in plate current by rotating control "D" throughout the range of 0 to 100.

(aa) If resonance is not found, set control "C" on the next higher position, rotate control "D" again, seeking the resonance dip.

(bb) Repeat subparagraph *(aa)* above until resonance is found or until control "C" has been tried on position 13 without finding a resonance dip.

(4) The transmitter can be set to frequencies between those given in the table by the following method:

(*a*) Find the two frequencies located on either side of the desired frequency.

(*b*) Find the difference between the dial settings of control "B" or "G" for these two frequencies.

(*c*) Multiply this difference by the decimal of a kilocycle in the desired frequency.

(*d*) Add this product to the dial setting for the lower frequency in subparagraph (*a*) above.

EXAMPLE

It is desired to transmit on 3411.5 kilocycles.

	FREQ.	A	B	
	3410	3	1114.1	
Desired Frequency 3411.5	3411 3412	3 3	1116.6 1119.0	*Difference Between Dial Settings is 2.4*
	3413	3	1121.5	

SETTING FOR DESIRED FREQUENCY IS OBTAINED THUS:

Difference in dial setting	2.4	Multiply
Decimal in the desired frequency	x 5	
Product	1.20	
Dial setting for lower frequency	1116.60	Add
Dial setting for desired freq.	1117.80	

b. PROCEDURES FOR SETTING THE CONTROLS (FOR MANUAL OR AUTOTUNE OPERATION.)

(1) GENERAL.—Following are the procedures for setting up the transmitter for manual or autotune operation. If manual operation is desired it is only necessary to set "CHANNEL" switch on "MANUAL" position and follow these instructions, except the locking bars should not be moved. Manual operation will not interfere with any of the channels set up for autotune operation if the locking bars are not loosened nor will setting up any channel in accordance with the following procedure interfere with any other channel previously set up. Channeling the autotune with the locking bars loose will completely eliminate the setting previously set up for the channel that was cycled and may cause settings for some or all of the other channels to shift.

(2) CW OPERATION INTO FIXED ANTENNA (2000 TO 18,100 KILOCYCLES).—The following procedure is to be used for setting up the transmitter for autotune operation on a desired frequency on any one of the 10 high frequency channels.

(*a*) Place the antenna selector switch on the antenna loading unit on "FIXED ANT." position. ("FIXED" position when using Antenna Switching Unit SA-22/ART-13.) When no low frequency equipment is supplied in the installation, Switch SA-13/U is used.

(*b*) Make certain that the microphone, key, and throttle switch ("T.S.") jack circuits are open.

(*c*) Place "LOCAL-REMOTE" switch in "LOCAL" position.

(*d*) Place "EMISSION" switch in "VOICE" position.

(*e*) Check primary voltage by moving the meter switch to "BATTERY VOLTAGE" position. Usable primary voltage is indicated when the meter needle is within the light colored area under "BATTERY." A primary voltage of 28 volts will cause the meter needle to read at the top edge of this colored area. A primary voltage of 24 volts will cause the meter needle to read the lower edge of this colored area.

(*f*) Place "CHANNEL" switch in the position corresponding to the channel it is desired to set up. (If manual operation is desired, place "CHANNEL" switch in "MANUAL" position.) If the autotune system begins to run, allow it to complete the cycle of operation before proceeding. The red pilot light on the front of the transmitter will light when the autotune cycle is completed, and the transmitter will be ready for tuning adjustments or operation.

(*g*) Unlock all five controls by holding the dial and turning the locking bar ¼ turn in a counterclockwise direction. (If manual operation is being used, the locking bars should not be loosened.)

(*h*) Set control "C" on position 1. Check the position of the control against the indicator mark on the transmitter panel. The setting of this control is critical. The transmitter will not operate if control "C" is not set properly.

(*i*) Find the desired frequency in the calibration table and note the nearest crystal check point marked in heavy black type.

(*j*) Set control "A" to the position corresponding to the number in column A at this crystal check point. Check the position of the control against the indicator mark on the transmitter panel. The setting of this control is critical. The transmitter will not operate if control "A" is not set properly.

(*k*) Set control "B" to the position corresponding to the number in column B at this crystal check point.

(*l*) Set the power level switch to "CALIBRATE" position and listen in the sidetone circuit for a beat note while rotating control "B" back and forth about the position given for the crystal check point. Set con-

shunt capacitor reduces the power output from the transmitter when used on frequencies higher than those which require its use. For this reason, it should not be used except when necessary and only on those channels which require it. This cannot be done if the transmitter is to be operated from a remote position, since no provisions have been made to automatically switch the shunt capacitor in or out. In this case the capacitor should be used only if it is desired to set a channel in the frequency range wherein the antenna cannot be resonated by the tuning elements in the transmitter itself, and it must be left in for all channels regardless of the reduction of power. Only the capacity necessary to tune the lowest frequency used should be connected. This can be done by connecting one, two, or three of the capacitors in parallel, according to the amount of capacity needed. Use the smallest number possible. To determine the lowest frequency that can be tuned with a given number of capacitors for a particular antenna, proceed as follows:

1. Connect the circuit it is desired to check; that is, either no capacitor connected, one section connected, two sections connected, or three sections connected.

2. Place "LOCATE REMOTE" switch to "LOCAL" position.

3. Place "EMISSION" switch on "VOICE" position.

4. Place "CHANNEL" switch on "MANUAL" position.

5. Place the meter switch on "P.A.PLATE" position.

6. When the autotune motor stops and the pilot light comes on, set control "A" on position 2 and control "B" on 2000.

7. Tune the load the power amplifier according to instructions contained in subparagraph 7*b*(2)(*q*) through (*y*).

8. Attempt to repeat the above tuning and loading procedure with each of the following combinations of settings in turn.

Control A	*Control B*
2	1500
2	1000
2	500
1	1500
1	1000
1	500
1	100

The setting of control "E" for each successive trial will be lower than for the preceding trial. If one of the above combinations of controls "A" and "B" cannot be tuned without going to a higher setting of control "C" than for the preceding combination, place control "C" on position 1, control "D" on zero, and control "E" on zero. Then rotate control B toward a higher reading, while holding "TEST" switch closed, until the plate current shows a resonance dip. Turn the transmitter off and look up the frequency in the calibration table corresponding to the combination of controls "A" and "B" found by this process. This installation of the transmitter, with sections of the antenna shunt capacitor (if used), with this length of fixed antenna wire in this type of airplane, cannot be tuned to any frequency below that obtained by this process. It may appear that proper operation is obtained by continuing the tuning procedure to higher positions of control "C," but this results in operation on a harmonic of the desired frequency and will result in complete lack of communication.

(3) CW OPERATION INTO TRAILING ANTENNA (2000 to 18,100 kilocycles).

(*a*) Set control "A" and "B" on the desired frequency by following instructions in paragraphs 7*b*(2)-(*b*) through (*s*).

(*b*) Connect the "ANT." post on the transmitter to ground with a lead as short as possible.

(*c*) Place control "D" on zero.

(*d*) Hold "TEST" switch closed and rotate control "E" throughout its range, seeking a plate current dip indicating resonance of the circuit.

(*e*) If no resonance dip is found, set control "C" on the next higher position and rotate control "E" again, seeking a dip in plate current.

(*f*) Repeat the instructions in paragraph (*e*) above until the resonance dip is found or until control "C" is set on position 8.

(*g*) If resonance was not found before control "C" was set on position 8, leave control "C" on position 8, set control "E" on zero, and seek the resonance dip in plate current by rotating control "D" throughout the range of 0 to 100.

(*h*) If resonance is not found, set control "C" on the next higher position, rotate control "D" again, seeking the resonance dip.

(*i*) Repeat paragraph (*h*) above until resonance is found or until control "C" has been tried on position 13 without finding a resonance dip.

(*j*) If the resonance dip was not found with control "C" on position 13, leave that control on position 13, place control "D" on 100, and seek the resonance dip with control "E." Do not attempt to load the transmitter.

(*cc*) If the resonance dip was not found with control "C" on position 13, leave that control on position 13, place control "D" on 100, and seek the resonance dip with control "E."

(*dd*) When resonance is found, place the power level switch on "OPERATE" position.

(*ee*) Load the power amplifier by increasing the reading on control "E" in steps, re-resonating with control "D" each time until the resonance dip falls in the light colored area marked "CW" on the meter.

Note

> On some types of antennas, and often with Control "C" on position 13, loading may decrease when control "E" is placed on a higher position. In that event, reverse the direction of movement of control "E".

(*ff*) After proper loading of the final amplifier tube has been found using any of the above procedures, lock control "C" by noting its reading, rotating the dial counterclockwise about one-quarter turn, and then rotating it clockwise to but not past the reading on which it had been set. Hold the knob and turn the locking bar clockwise, until tight, with a firm but not heavy pressure. Further pressure on the dial in a clockwise direction should not cause the dial to move beyond the original setting. If it does, unlock and repeat the locking procedure, making certain the original dial setting is used. Repeat this procedure with controls "D" and "E." (If manual operation is being used, the locking bars should not be bothered.)

(*gg*) Check tuning and locking by holding "TEST" switch closed while placing a small force on each dial in turn in the clockwise direction. If all dials are locked properly, no detuning will result. (Do not use this test when in "MANUAL" position.)

(*hh*) Repeat the above procedure for each high frequency autotune channel it is desired to set up on the transmitter.

Note

> The "P.A.GRID" meter reading, with control "A" on position No. 7 is usually at the lower edge of the light colored area marked "CW." It is permissible for the grid meter reading for this particular setting (control "A" on No. 7) to be 50 on the meter scale and still be satisfactory. A lower meter reading is not satisfactory, and the transmitter should be replaced with a serviceable transmitter if resetting of control "A" does not correct the difficulty.

(*ii*) When operating in the 2000 to 3000 kilocycle range into a fixed antenna, care must be exercised to avoid operation on a harmonic of the desired frequency. This will be avoided in most cases by following the outlined procedure for tuning adjustment into a fixed antenna. However, for frequencies between 2000 and 3000 kilocycles on antennas shorter than 50 feet, the antenna may be too short for the tuning elements in the transmitter to resonate at the fundamental frequency. Therefore, the first resonance indicated by the tuning adjustment procedure may be a harmonic of the desired frequency. To determine whether this is tuned, follow the tuning procedure outlined in subparagraph (*jj*) below.

(*jj*) For operation into short antennas (less than 50 feet) at frequencies between 2000 kilocycles and 3000 kilocycles it may be necessary to connect the antenna shunt capacitor to the "COND" post on the transmitter. This is accomplished by throwing the knife switch so the capacitor is connected to the transmitter. The following table may be used as a guide to determine whether or not use of the capacitor will be necessary and, if used, how many sections are required for various frequencies and lengths of antenna.

Length of Antenna (in feet)	*Frequency Range (in kilocycles)*	*Antenna Shunt Capacitor number of Sections Necessary*
60 to 65..........	2000 to 18100....	none
53 to 60..........	2000 to 2100.....	one
53 to 60..........	2100 to 18100....	none
45 to 53..........	2000 to 2100.....	two
45 to 53..........	2100 to 2200.....	one
45 to 53..........	2200 to 18100....	none
36 to 45..........	2000 to 2100.....	three
36 to 45..........	2100 to 2200.....	two
36 to 45..........	2200 to 2400.....	one
36 to 45..........	2400 to 18100....	none
27 to 36..........	2100 to 2200.....	three
27 to 36..........	2200 to 2400.....	two
27 to 36..........	2400 to 2700.....	one
27 to 36..........	2700 to 18100....	none
20 to 27..........	2200 to 2400.....	three
20 to 27..........	2400 to 2700.....	two
20 to 27..........	2700 to 3000.....	one
20 to 27..........	3000 to 18100....	none

To determine the length of the antenna, measure the total length of wire from the antenna terminal of the transmitter to the extreme end of the antenna (including the length of the lead inside the airplane.) If the antenna is a "T," disregard the length of wire in the shorter branch at the top of the "T," or, if the two branches are equal, include the length of only one of them. The tuning procedure for the transmitter, when using the shunt capacitor, is identical to the procedure without the shunt capacitor. *The use of the antenna* and lock them in place. (If manual operation is being used, place control "A" on position 13 and control "C" on position 8 without unlocking them.)

Note

If the low frequency autotune mechanism should fail, it is only necessary to switch to "MANUAL" and set control "A" to position 13 and control "C" to position 8, since low frequency operation is only a switching procedure. It is possible to set the low frequency position on any of the 11 channels. It is only necessary to lock control "A" on position 13 and control "C" on position 8, on the channel it is desired to use as a substitute for the "L. FREQ." position.

(*g*) Find the desired frequency in the calibration table and note the nearest crystal point marked in heavy black type.

(*h*) Set control "F" to the position corresponding to the number in column F at the crystal check point.

(*i*) Unlock control "G" by turning the lock knob counterclockwise until loose. Then set control "G" to the position corresponding to the number in column G at the crystal check point.

(*j*) Set the power level switch to "CALIBRATE" position and listen in the sidetone circuit for a beat note while rotating control "G" back and forth about the position given for the crystal check point. Set control "G" on the position that gives zero beat and turn the power level switch to "TUNE" position.

(*k*) Set the movable indicating mark by means of the "CORRECTOR" knob near control "G" to the reading of the control "G" found in the column G at the crystal check point.

(*l*) Refer to the calibration table and obtain the correct setting of control "G" for the desired operating frequency and set control "G" to that reading. Lock the dial.

(*m*) Place "EMISSION" switch on "CW" position.

(*n*) Check the grid drive to the final amplifier by placing the meter switch on "P.A.GRID" position, closing "TEST" switch, and noting the reading on the meter. It should read in, or slightly above, the light colored area marked "P.A.GRID" on the meter. If it does not, check the positions of controls "A" and "C."

(*o*) Place the meter switch on "P.A.GRID" position.

IMPORTANT

Continue with steps (*p*) through (*y*) below when using Antenna Loading Unit CU-32/ART-13A. Continue with steps (*z*) through (*bb*) following when using Antenna Loading Coil CU-25/ART-13 (Antenna Loading Coil CU-26/ART-13) and Antenna Switching Unit SA-22/ART-13.

(*p*) Place control "P" on the Antenna Loading Unit on position 1.

(*q*) Place control "Q" on position 1.

(*r*) Unlock control "R" and place it on zero.

(*s*) Hold "TEST" switch closed and rotate "R" throughout its range, seeking a plate current dip indicating resonance of the circuit.

(*t*) If no resonance was found, place control "Q" on the next higher position, hold "TEST" switch closed, and rotate control "R" again, seeking the dip in plate current.

(*u*) Repeat paragraph (*t*) above until resonance is found or until control "Q" has been tried on all its positions.

(*v*) If no resonance was found in subparagraph (*u*) above, set control "P" on the next higher position, control "Q" on position 1 and repeat subparagraphs (*s*) (*t*) and (*u*) above.

(*w*) Repeat subparagraph (*v*) above until resonance is found.

(*x*) When resonance is found, lock control "R" in the position giving minimum plate current.

(*y*) This completes the tuning procedure when using Antenna Loading Unit CU-32/ART-13A as there is no provision for exact loading of the transmitter in the frequency range 200 to 600 kilocycles. The plate current may read anywhere between 10 and 120 for normal operation.

Note

For operation in the 200 to 600 kilocycle range, use Antenna Loading Coil CU-25/ART-13 with controls "K" and "L"; in the 600 to 1500 kilocycle range, use Antenna Loading Coil CU-26/ART-13 with controls "H" and "J."

(*z*) Place control "K" (or "H" as applicable) on position 1.

(*aa*) Turn the "LOCK" knob counterclockwise until loose on control "L" (or "J" as applicable).

(*bb*) Place the "EMISSION" selector switch on "CW" position.

(*cc*) Hold the "TEST" switch closed and rotate control "L" (or "J") throughout its range, seeking a plate current dip indicating resonance of the circuit. Be sure meter circuit selector switch is in "P.A. PLATE" position.

Note

The above procedure may be accomplished on the ground and controls "C," "D," and "E" locked in the positions found for each frequency on which trailing wire operation is desired. Then during flight, it will be necessary to channel the autotune into the channel on which it is desired to operate; unlock controls "C," "D," and "E" and continue with the procedure that follows. Be sure "EMISSION" switch is on "CW," power level switch in on "TUNE" and meter switch is on "P.A.PLATE."

(*k*) When resonance is obtained, release the "TEST" key and remove the connection between the "ANT." post and ground and make certain the proper wire is fastened to that post.

(*l*) Let out the trailing wire to a counter reading 10 higher than that shown in the following table of approximate antenna lengths for the desired frequency.

(*m*) Hold the "TEST" switch closed and reel the wire in while watching the plate current meter for a resonance dip.

(*n*) If no dip is found, let the wire out to a reading 20 higher than that indicated in the table and repeat the reeling-in procedure.

COUNTER READING

KC	*1/4 Wave*	*3/4 Wave*	*5/4 Wave*
2000	101		
3000	61		
4000	46	150	
5000	38	118	
6000		90	
7000		70	
8000		60	
9000		48	93
10000		41	76
12000			55
14000			44
16000			37
18000			34

(*o*) When resonance is found, adjust the length of the wire to correspond to minimum plate current and set power level switch on "OPERATE" position.

(*p*) If resonance was found with control "C" on positions 1 to 7 inclusive, load the power amplifier by increasing the reading on control "D" in steps, re-resonating with control "E" each time. When control "D" has been rotated throughout its range, set control "C" on the next higher position, control "D" on zero, and repeat. Continue this process until the resonance dip falls in the light shaded area marked "CW" on the plate meter.

Note

If the resonance dip causes the plate current to fall to a very low value, control "C" may be set to the next higher position without moving control "D," always re-resonating with control "E" each time as before. Fine adjustment must still be made by means of control "D."

(*q*) If resonance was found with control "C" on positions 8 to 13 inclusive, load the power amplifier by increasing the reading on control "E" in steps, re-resonating with control "D" each time until the resonance dip falls in the light colored area marked "CW" on the meter.

(*r*) Lock controls "C," "D," and "E." (If manual operation is being used, the locking bars should not be loosened.)

Note

This channel may be used on trailing wire again without unlocking the dials by cycling the autotune into the channel, placing the power level switch on "TUNE" position, adjusting the antenna length to the position corresponding to minimum plate current if frequency is below 10,000 kilocycles and to maximum antenna current if frequency is above 10,000 kilocycles and returning the power level switch to "OPERATE" position. Be sure to use the same number of quarter wave lengths as in tuning up.

(*s*) Trailing wire operation will increase the range of the equipment considerably in the frequency range 2000 to 6000 kilocycles, some in the frequency range 6000 to 10,000 kilocycles, but will not increase it appreciably for frequencies above 10,000 kilocycles.

(4) CW OPERATION INTO FIXED OR TRAILING ANTENNA (200 to 1500 KILOCYCLES).—The following procedure is to be used for setting up the transmitter; for autotune or manual operation on a desired frequency in the low frequency channel.

(*a*) Place the antenna selector switch on the antenna loading unit (on Antenna Switching Unit SA-22/ART-13, when used) in the position which selects the desired antenna.

(*b*) Make certain that the microphone, key and throttle switch ("T.S.") jack circuits are open.

(*c*) Place "LOCAL-REMOTE" switch in "LOCAL" position.

(*d*) Place "EMISSION" switch in "VOICE" position.

(*e*) Place "CHANNEL" switch in "L. FREQ." position and wait until the autotune stops.

(*f*) Unlock controls "A" and "C." Place control "A" on position 13 and control "C" on position 8, (*b*) Key the transmitter for normal operation.

Note:

The normal meter reading on "MCW" when the meter switch is in "P.A.PLATE" position, key down, will be in, or slightly above, the light colored area marked "MCW."

(7) ADJUSTMENT OF SIDETONE LEVEL.

(*a*) Lift the chart on the front panel of the transmitter.

(*b*) Listen in the headphones while holding the "TEST" switch closed and adjust the "OUTPUT" control for proper volume of signal. Check the volume on each type of emission; "MCW," "CW," and "VOICE."

(8) USE OF CHART ON FACE OF TRANSMITTER.—After the transmitter has been set on the desired channels, enter the readings of controls "A," "B," "C," "D," and "E" on the chart on the transmitter. Make these entries after the autotune has been channeled into each channel set up and after the operation has been checked. Set the vernier scale or single index mark for control "B" with the zero line of the vernier directly above the dial and record the reading of the dial with the vernier scale in that position. This will enable the operator to check the settings even after the movable vernier scale has been adjusted to set up another channel. If the shunt capacitor is necessary on any of the frequencies set up, write the number of sections required following the number of the channel in the left hand column. Record the settings of controls "F," "G," "P," "Q," and "R" ("K" and "L" on Antenna Loading Coil CU-25/ART-13) on the lower line. Set the movable indicating mark on control "G" directly above the dial to obtain the reading then record whether "P," "Q" and "R" ("K" and "L" on Antenna Loading Coil CU-25/ART-13) are settings for fixed or trailing antenna in the left hand column in the same position used for indicating sections of the shunt capacitor in the upper lines. To minimize tuning in the air, leave controls "P," "Q," and "R" on the positions for fixed antenna operation and record the positions for trailing antenna on the chart or reverse the order if desired. If two frequencies in the range 200 to 600 kilocycles are to be used, one may be set on the controls ("F," "G," "P," "Q" and "R" or "F," "G," "K" and "L" when using Antenna Loading Coil CU-25/ART-13) and the other recorded on the chart. Which of the above methods is chosen for use of the chart for low frequency operation will depend on tactical considerations.

(9) PREPARATION FOR OPERATION.—The transmitter uses tubes which require at least 30 seconds to warm up before operation. If conditions permit, have the transmitter in readiness for operation by leaving the "EMISSION" switch in "VOICE" position during the entire flight. This is a "standby" condition and eliminates the 30 second delay waiting for the tubes to warm up.

c. SIMPLIFIED PROCEDURES FOR SETTING THE CONTROLS.

(1) GENERAL.—The following procedures are for setting the controls using the approximate dial settings following the calibration tables.

(2) SIMPLIFIED CW OPERATION INTO FIXED ANTENNA (2000 to 18,100 kilocycles).

(*a*) Follow instructions in paragraphs 7*b*(2) (*a*) through (*s*).

(*b*) Set the control "C," "D," and "E" to the positions indicated in the table of approximate dial settings for the desired frequency. Be sure to use the column under the correct length of antenna. (Table 5-7 in this manual.)

(*c*) If control "C" is on position 7 or below.

1. Hold "TEST" switch closed and adjust control "E" to the position at resonance indicated by the dip in plate current.

2. Place the power level switch on "OPERATE" position.

3. If the plate current meter reading is above the area marked "CW" move control "D" a few divisions lower and readjust control "E" for minimum plate current. Repeat until the plate current reading is in the area marked "CW." If the plate current meter reading is below the area marked "CW" move control "D" a few divisions higher and readjust control "E" for minimum plate current. Repeat until the plate current reading is in the area marked "CW." Do not leave the control on any position other than that at the resonance dip. Lock control "C," "D," and "E."

(*d*) If control "C" is on position 8 or above.

1. Hold "TEST" switch closed and adjust control "D" to the position at resonance indicated by the dip in plate current.

2. Place the power level switch on "OPERATE" position.

3. If the plate current meter reading is above the area marked "CW," move control "E" a few divisions lower and readjust the control "D" for minimum plate current. Repeat until the plate current reading is in the area marked "CW." If the plate current meter reading is below the area marked "CW," move control "E" a few divisions higher and readjust control "D" for minimum plate current. Repeat until the plate current reading is in the area marked "CW." Do not leave the controls on any position other than at the resonance dip. Lock control "C," "D" and "E."

(*dd*) If no resonance was found, place control "K" (or "H") on the next higher position, hold the "TEST" switch closed, and rotate control "L" (or "J") again, seeking the dip in plate current.

(*ee*) Repeat paragraph (*dd*) above until resonance is found.

(*ff*) Adjust control "L" (or "J") to the position giving minimum plate current.

(*gg*) Place the "CALIBRATE-TUNE-OPERATE" switch in the "OPERATE" position.

(*hh*) This completes the tuning procedure, as there is no provision in the frequency range 200 to 1500 kilocycles for exact loading of the transmitter to the light colored area marked "CW" on the plate meter. The plate current may read anywhere from 10 to 110.

Note:

If the low-frequency autotune mechanism should fail, it is only necessary to switch to "MANUAL" and set control "A" to position 13 and control "C" to position 8. Since the low frequency operation is only a switching procedure, it is possible to set the low frequency position on any of the 11 channels. It is only necessary to lock control "A" on position 13 and control "C" on position 8 on the channel it is desired to use as a substitute for the "L. FREQ." position.

(*ii*) Note that the tuning reactance present in Antenna Loading Coil CU-25/ART-13 (200-600 kc) may not be sufficient to resonate all fixed wire antennas down to 200 kc. It will resonate a 200-foot trailing wire antenna over the frequency range of 200-600 kc. The tuning reactance present in Antenna Loading Coil CU-26/ART-13 may not be sufficient to resonate all fixed wire antennas down to 500 kc. It will resonate a 200-foot trailing wire antenna over the frequency range of 600-1100 kc and a 150-foot trailing wire antenna over the frequency range of 1100-1500 kc.

(*jj*) Be careful to avoid operation on a harmonic of the desired frequency. In the type of tuning network used, the antenna is a part of the plate tuning circuit. Therefore, if the antenna is too short, it will not be possible to tune the lower end of the frequency range. To determine the lowest frequency that it is possible to tune, proceed as follows:

1. Set the "EMISSION" switch to "VOICE," the "CHANNEL" switch to "L. FREQ.," the meter selector switch to "P.A.PLATE," and the antenna changeover switch to the "FIXED" position.

2. Set control "K" to position 1 and control "L" to zero.

3. Make certain that control "A" stops on position 13 and control "C" on position 8. If not, set and lock the autotune in those positions.

4. Set control "F" on position 1 and control "G" on zero.

5. Set the power level switch to "TUNE."

6. Close the "TEST" switch and rotate control "G" toward a higher reading, watching for a resonance dip in plate current.

7. If the resonance dip is not found before control "G" is rotated to its extreme position, set control "F" on position 2, control "G" to zero, and repeat closing the "TEST" switch and rotating control "G" towards a higher reading again.

8. Set control "G" on the position that corresponds to the minimum plate current as found by the above method and release the "TEST" switch.

9. Determine the frequency indicated by the readings on control "F" and "G". Installation of this length and type of fixed antenna cannot be tuned to any frequency below that obtained by this process. It may appear that proper operation is obtained by continuing the tuning procedure to higher positions of control "K," but this results in operation on a harmonic of the desired frequency and will cause complete lack of communication. This same procedure may be used for the smaller load coil by substituting control "H" for "K" and control "J" for "L."

(5) VOICE OPERATION.

(*a*) Adjust the transmitter for CW operation and place "EMISSION" switch on "VOICE" position. No further tuning adjustments are necessary.

(*b*) Be sure the microphone selector switch under the tuning chart on the front panel of the transmitter is in the position corresponding to the type of microphone being used.

(*c*) Press the button on the microphone or in its cord and hold it depressed while speaking. Release it to listen.

Note:

When the meter switch is in "P.A.PLATE" position, the meter indicates the sum of the power amplifier and modulator plate currents and will, therefore, read slightly higher on "VOICE" than on "CW." With normal modulation the plate current meter will read in the red area above the portion marked "CW" and may hit the meter peg with heavy modulation during normal operation.

(6) MCW OPERATION.

(*a*) Adjust the transmitter for CW operation and place "EMISSION" switch on "MCW" position. No further adjustments are necessary.

(7) Change to an alternate frequency and call sign if the primary frequency is badly jammed. Tune up quickly and accurately using a dummy antenna if available. If not, tune up at reduced power.

(8) Generally CW is the most difficult to jam. Tone telegraph should also be tried. When using radiophone use the phonetic alphabet and speak each word twice.

(9) Beware of fake messages slipped into the jamming by the enemy. In case of doubt authenticate. Don't allow the enemy to distract attention with conversation.

(10) Do not shut down. That is exactly what the enemy wants to happen and it would let him know that the jamming is effective. Practice, concentration, and persistence will enable an operator to work through jamming many times stronger than the desired signal.

SECTION IV

EMERGENCY OPERATION AND REPAIR

1. EMERGENCY TROUBLE-SHOOTING (IN FLIGHT).

The information presented here is intended to assist the technically trained operator to rapidly locate a source of trouble and make emergency repairs to the equipment while in flight. Use of the following chart, showing symptoms, causes and emergency remedies, for troubles that are most frequent causes of transmitter failure, should simplify and expedite the location and correction of the fault. It should be noted that this chart is intended for use only while in flight since it does not include information on troubles that require more involved repairs or parts replacement that cannot be accomplished in flight. Complete and detailed trouble-shooting may be accomplished, after the airplane has returned to its base, by using similar but more detailed trouble-shooting charts in section V of the maintenance handbook. See Figure 2-1 for tube placement.

Symptoms	*Probable Cause*	*Emergency Remedy*
1. Autotune does not run and tubes do not light.	1a. Open circuit breaker.	1a. Check circuit breakers in 28 volt supply lines to equipment.
	1b. Open overload relay on dynamotor unit.	1b. Press "TRANS. RESET" button on front of dynamotor unit.
2. Dynamotor does not start but Autotune runs and tubes light.	2a. Open overload relay on dynamotor.	2a. Press "DYNA.-RESET" button on front of dynamotor unit.
	2b. Interlock switch does not close.	2b. Short terminals of contact switch.
3. No R-F output on any frequency. Autotune runs, tubes light, and dynamotor starts.	3a. Control "C" is incorrectly set.	3a. Unlock the dial and rotate it back and forth through a small range while holding "TEST" switch closed. If R-F output is obtained, lock control near proper number so that transmitter will operate even if dial is not set exactly on the indicated position.
	3b. Blown fuse on dynamotor.	3b. Check fuse in holder labelled "400V." If blown, spare fuse is located in adjacent holder labelled "SPARE."
	3c. Vacuum switch failure (glass is cracked or arcing occurs inside the switch).	3c. Turn off equipment. Remove wire from the "ANT" post and connect it to the "COND." post. Add wire from "RECEIVER" post on transmitter to antenna (either fixed or trailing wire) that is not being used for transmission. Be sure trailing wire is reeled out. This operation may damage receiver if wire now connected to receiver antenna "A" post is not disconnected during the transmission period. It is recommended that this wire be disconnected during transmissions.

(3) SIMPLIFIED CW OPERATION INTO FIXED OR TRAILING ANTENNA (200 to 600 kilocycles) WHEN USING ANTENNA LOADING UNIT CU-32/ART-13A.

(*a*) Follow instructions in paragraph 7 (4) (*a*) through (*o*).

(*b*) Set controls "P" and "Q" on the positions indicated in the table of approximate dial settings for the frequency below the desired frequency. Be sure to use the column under the correct length of antenna.

(*c*) Follow the instructions in the regular procedure starting with paragraph 7*b*(4)(*s*).

SECTION III

OPERATION

1. STARTING AND STOPPING.

a. TO START.—Turn "EMISSION" switch to "VOICE" position.

b. TO STOP.—Turn "EMISSION" switch to "OFF" position.

2. OPERATION DURING NORMAL USE.

a. Check "LOCAL-REMOTE" switch on the transmitter panel to make sure it is in the proper position according to whether operation is desired from the transmitter panel or from the remote control unit.

b. Place the emission switch on "VOICE" if the equipment is turned off or leave it on "VOICE," "CW," or "MCW" if equipment is already on and place "CHANNEL" switch on the position corresponding to the frequency on which transmission is desired. This may be found on the chart on the front panel of the transmitter. If there is a number (1, 2 or 3) after the channel number on the chart and in the same box with it, make sure that the number of sections of the shunt capacitor are connected and that Switch SA-46/ART-13A is closed.

c. When red pilot light comes on (it will take about 25 seconds for the autotune to seek the proper position), place the emission switch on the position corresponding to the type of emission desired; "VOICE," "CW" or "MCW." If operation is in the range 200 to 1500 kc, check to make sure that the proper frequency is set up on controls "F" and "G" and that the antenna circuit is in resonance before attempting operation.

d. Operate the transmitter with the microphone and its associated switch if "VOICE" operation is desired or with the key if "CW" or "MCW" is desired.

CAUTION

> Under no circumstances should the transmitter be actually operating (key down or microphone switch closed) when the emission switch is being operated. Such operation, especially at high altitudes, can cause an arc to occur and damage the contacts of relays. Never leave the Autotune controls in any position other than against the stops in a clockwise direction. The mechanism always leaves them in the proper position and they should not be tampered with after cycling. Proper positioning may be checked by applying a firm but not heavy force to each control in a clockwise direction until the control strikes the stop.

3. DEFENSE AGAINST RADIO JAMMING.

a. GENERAL.—Jamming is the intentional generation by the enemy of radio signals designed to make friendly signals unreadable and to surprise and confuse the radio operators. The various types of jamming are described in section 5, paragraph 4.

b. PROCEDURE.—If bad interference is received and jamming is suspected, proceed as follows:

(1) Remove the antenna from the binding post of the receiver. If the noise level drops appreciably, the interference is coming from outside the receiver. If the noise does not diminish there is something wrong with the receiver.

(2) Tune the receiver several hundred kilocycles each side of the desired signal. If there is no change in intensity of the interference something close at hand is the cause. If the interference extends only over a short frequency band it is probably jamming.

(3) *Report jamming immediately to the commanding officer.*

(4) Use a crystal filter when available. Tune the receiver slowly back and forth across the desired signal to find the position where the signal is the clearest.

(5) Use a noise limiter when available. If no limiter is available turn the receiver gain up as high as it will go. To make this less hard on the ears put a handkerchief between the ears and headphones or just turn the headphones around so they are facing away from the ears.

(6) Change the BFO setting when working with CW. This will often put the message on one audio tone and the jamming on the other. With some types of jamming the signal can be heard better with the BFO cut off. Also try turning the gain control to a very low level.

2. REPLACING TUBES.

a. Remove cover of transmitter by inserting coin or screwdriver in each hold-down screw and make a half turn counter-clockwise. Pry up cover.

WARNING

> Be sure to turn off the entire equipment before replacing tubes. High voltage on caps at top of tubes is dangerous to life. Observe all safety precautions.

b. The position of each tube is shown in figure 2-1 in this handbook. All tubes with exception of V-2601 (low frequency oscillator) are visible and accessible when transmitter top cover is removed. Tube V-2601 can be reached by removing the cover of LFO unit (this unit is located directly behind control "G" and has perforated cover).

c. Tube clamps are used on some tubes to prevent tube from coming out of socket when vibration occurs. To open clamp, insert screwdriver and gently pry open (see sketch in fig. 2-1). Clamps on tubes V-105 and V-106 are accessible through rear cover plate. Clamps on tubes V-102 and V-103 can best be reached from the top of transmitter. Obtain access to clamp on tube V-101 through side cover plate.

d. To replace tube V-104, orient the base pin with the slot in the hole above the socket and then press down firmly until tube pins are solidly engaged in the socket.

3. REPLACING FUSE.

The only fuse used in this equipment is located on the dynamotor unit chassis. The holder containing the fuse is labelled "400V." To remove the fuse, unscrew the holder. A spare fuse is located in the adjacent holder labelled "SPARE."

4. REPLACING DYNAMOTOR BRUSHES.

Remove end covers from dynamotor to obtain access to brushes. Replace brushes that are worn down to ¼″ or less. When removing a brush that has been used, mark the upper side with the polarity and number (if applicable) that appears on the bracket near that brush so that it can be replaced in the same holder and in the same direction as before. New brushes may be installed in any holder with either side up, although it is preferable to place the brush code marking down so that the blank side of the brush will be used for marking when it is removed.

5. SUBSTITUTION OF TUBES WHEN REPLACEMENTS ARE NOT AVAILABLE.

The following tube substitutions can be made when a replacement tube of the correct type is not available.

a. LOW FREQUENCY OSCILLATOR V-2601.—Replace with one of the Multiplier tubes. This will provide low frequency operation only.

b. ONE MULTIPLIER TUBE V-102 OR V-103.—Interchange with the low frequency oscillator tube. A tube with a good filament must be in the low frequency oscillator socket at all times. This will provide high frequency operation only.

c. TWO MULTIPLIER TUBES OR ONE MULTIPLIER TUBE AND THE LOW FREQUENCY OSCILLATOR TUBE.—Put the good tube in the first multiplier socket. Tubes with good filaments must be in the low frequency oscillator and the second multiplier sockets. This will provide operation in the frequency range 2000 to 6000 kilocycles.

d. SPEECH AMPLIFIER V-201.—Use "CW" operation. No sidetone signal will be available.

e. AUDIO DRIVER V-202.—Interchange it with the sidetone amplifier. There must be a tube with a good filament in the sidetone socket. This will provide normal operation with the exception of a sidetone signal.

f. MODULATOR V-105 OR V-106.—USE "CW" operation. The modulator tubes must have good filaments.

g. *DETECTOR AND MCW AUDIO OSCILLATOR V-2203.—Interchange it with the crystal oscillator tube. If there is a tube with a good filament in the crystal oscillator socket, all operation will be normal except the CFI will be inoperative. If the tube in the crystal oscillator socket does not have a good filament, only "VOICE" and "CW" operation are possible.

*e**. ANY COMBINATION INCLUDING ALL OF CRYSTAL OSCILLATOR V-2201, MIXER V-2202, DETECTOR AND MCW AUDIO OSCILLATOR V-2203, SIDETONE AMPLIFIER V-203.—There must be a good tube with a good filament in the sidetone amplifier socket. "VOICE" and "CW" operation are available.

*f**. ANY COMBINATION, INCLUDING ALL OF CRYSTAL OSCILLATOR V-2201, MIXER V-2202, DETECTOR AND MCW AUDIO OSCILLATOR V-2203, SPEECH AMPLIFIER V-201, DRIVER V202, SIDETONE AMPLIFIER V-203, MODULATORS V-105 AND V-106.—There must be tubes with good filaments in the modulator sockets. "CW" operation is available.

j. HIGH FREQUENCY OSCILLATOR V-101.—Interchange with the low frequency oscillator. The tube in the low frequency oscillator socket must have a good filament. It may be necessary to reset the frequency of operation since this interchange will cause the oscillator to shift from the original frequency. The tube must be replaced with the proper type as soon as possible. This interchange will provide high frequency operation only.

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*These steps can be performed only when MCW-CFI 8Q-2 Unit is installed in transmitter.

Symptoms	*Probable Cause*	*Emergency Remedy*
	3d. Antenna Loading Unit failure.	3d. Connect "ANT" post on transmitter directly to antenna lead-in. This will provide high frequency operation only.
	3e. "CALIBRATE - TUNE - OPERATE" switch set incorrectly.	3e. Be sure this switch is set to "OPERATE" position.
	3f. Faulty tube. Tubes V-104, V-103, V-102, V-101, or V-2601 are most likely offenders.	3f. Check tubes by replacement. Instructions for removing and replacing tubes are given in paragraphs 2, following this chart.
4. No R-f output on "L.FREQ." (200-600 kilocycles) range only. Other ranges are OK.	4a. Control "A" not set correctly.	4a. Be sure control "AW" is set exactly to position 13 ("L.FREQ.").
	4b. Faulty JAN-1625 tube in low frequency oscillator.	4b. Check tube by replacement.
	4c. Fault in Antenna Load Unit.	4c. Cannot be corrected in flight. Use high frequency channels only.
5. No R-f output in 6 to 18 megacycles frequency range. Other ranges are OK.	5a. Faulty tube.	5a. Check tubes 813, V-102, and V-103 by replacement.
6. No R-f output in 2 to 6 megacycles frequency range.	6a. Faulty tube.	6a. Check tubes V-101, V-102, and V-103 by replacement.
7. Equipment will not operate from Remote Control Unit.	7a. Failure of Remote Control Unit or cable.	7b. Place "LOCAL-REMOTE" switch on transmitter panel in "LOCAL" position and operate equipment from its panel.
8. Autotune will not operate. Equipment is OK otherwise.	8a. Defect in "CHANNEL" switch.	8a. Turn switch to "MANUAL." If autotune operates, allow it to complete the cycle and then set all controls manually to their correct settings. If autotune still does not run, set 8b.
	8b. Defect in mechanism, and controls are "jammed."	8b. Loosen locking bars in all knobs and position each knob to correct setting.
9. Autotune operates but does not set all control knobs to their correct position.	9a. Faulty part in one or more of the autotune units.	9a. Try to turn the incorrectly set dial to correct position. If it will not turn, release the locking bar and then turn to correct setting.
10. No modulation on "MCW", but "VOICE" operation is OK.	10a. Faulty tube.	10a. Check tube V2203 by replacement (tube V-203 when MCW-CFI 8Q-1 unit is installed).
11. No modulation when "VOICE" operation is used.	11a. Faulty microphone plug or jack.	11a. Try connecting microphone to jack on remote control or transmitter panel.
	11b .Faulty tube.	11b. Check tubes V-201, V-202, V-203, V-105, and V-106 by replacement.
12. No sidetone but transmission is OK.	12a. Faulty tube.	12a. Check tube V-203 by replacement.
13. "BEAT NOTE" cannot be heard when crystal is attempting to calibrate.	13a. Defective CFI Unit.	13a. Replace crystal.
	13b. Faulty tube.	13b. Check tubes V-2201, V-2202, and V-2203, by replacement (tubes V-301, and V-302 when MCW-CFI 8Q-1 Unit is installed).

and the transmitter still be adjusted properly. No adjustment of the output controls should be attempted if the supply voltage does not read within the proper limits shown by the meter on the transmitter.

(12) Place the meter switch on "P.A.GRID." The meter should read in the area marked "P.A.GRID." Release the "TEST" switch and place the meter switch on "P.A.PLATE."

(13) Place "EMISSION" switch on "MCW."

(14) Listen in the sidetone circuit and close "TEST" switch. The receiver hiss should stop and the sidetone signal should be heard. The plate current should be in or near the area marked "MCW." Release "TEST" switch.

(15) Place "EMISSION" switch on "VOICE." Press the microphone button. The plate current should read about 20 or 30 higher than on "CW." Speak or whistle into the microphone. The plate current should read near the area marked "MCW" and may bear full scale on loud signals.

(16) Check the control settings against the chart, the "P.A.GRID" and "P.A.PLATE" current on "CW" for each of the other channels set up. Connect the proper number of sections of the shunt capacitor for the channels requiring them as indicated on the chart. See section II, paragraph 7*b*(8).

(17) Check operation of the autotune on each of the channels not set up by cycling the autotune into each in turn and making sure the controls turn properly.

(18) If remote operation is provided in the installation, check operation of the autotune from it by cycling each channel in turn and checking the setting of controls against the transmitter chart for each channel set up and that the controls turn properly on all other channels. Check the key on "CW", and proper operation on "MCW" and "VOICE" from the remote control unit on one channel.

(19) Set "CHANNEL" switch on "L.FREQ." and let the autotune cycle.

(20) Make sure that control "A" stops on 13 and control "E" on 8. If they do not, lock them in those positions.

(21) If the antenna loading unit is supposed to be adjusted for operation into the fixed antenna on the frequency set up on the low frequency oscillator (see sec. II, par 7*b*(8)), unlock control "R" on the loading unit, close "TEST" switch, adjust control "R" to minimum plate current and release "TEST" switch. Lock control "R" in that position.

(22) Cycle the transmitter into one of the frequencies set up in the high frequency range. Tune the receiver for "CW" operation on that frequency. Set "NORMAL-MONITOR" switch on "MONITOR" position and turn the power level switch on the transmitter to "CALIBRATE" position. It should be possible to hear a beat note and to tune the beat note to zero by rotating the receiver dial. Return the power level switch to "OPERATE" and the "NORMAL-MONITOR" switch to "NORMAL" position.

(23) Place "CHANNEL" switch on "MANUAL" and let the autotune cycle. All controls should move freely. Set control "C" on position 1, control "A" on 2, control "B" on 1910. Set power level switch on "CALIBRATE" position and listen in the sidetone circuit. A beat note should be heard and it should be possible to tune it to zero by rotating control "B." Replace the power level switch on "OPERATE" position.

(24) Return "CHANNEL" switch to the position it was on originally and let the autotune cycle.

(25) Turn the transmitter and the receiver off.

c. 100-HOUR INSPECTION.—The radio transmitting equipment shall be given a thorough and searching visual and operating inspection and a thorough cleaning in accordance with the following:

(1) Remove the transmitter from its mounting by cutting the tiewire on the locking knobs on the front and on the plug locking rings on the left end, removing the plugs and wires from the sockets and terminals on the left end, loosening the knurled locking knobs on the front of the transmitter, and sliding the transmitter forward off its mounting.

(2) Remove the cover and clean out all dust and dirt, particularly around isolantite bushings, stand-off, feed-through insulators, etc. Inspect for loose ends of wire, corrosion or other obvious defects.

(3) Inspect all relay contacts.

(4) Inspect in accordance with section II, paragraph 2*a*(1).

(5) Remove the dynamotor unit from its mounting by cutting the tiewire on the locking knobs and the plug locking rings on the front, removing the plugs from the front, loosening the knurled locking knobs and sliding the unit forward off its mounting.

(6) Remove the end covers and clean the interior of the machine.

(7) Remove and inspect the brushes. Replace those less than one-quarter inch long (see par. 4, this section). Be sure to mark the top of each brush removed with the polarity and number (if appiclable) that appears on the end bracket near the respective brushes. When replacing brushes, be sure to put them back in the same holder and the same side up as removed.

6. REGULAR INSPECTIONS.

a. PREFLIGHT INSPECTION.—The radio transmitting equipment shall be given a rapid visual and operating inspection in accordance with the following:

(1) Inspect antenna for proper security and tension.

(2) Make a visual check for proper security of all set components.

(3) Turn on the liaison receiver.

(4) Place "EMISSION" switch on "VOICE" with "LOCAL-REMOTE" switch on "LOCAL" and antenna selector switch on "FIXED ANT." ("FIXED" when Antenna Switching Unit SA-22/ART-13 is used).

(5) Make sure the microphone selector switch is in the position corresponding to the type of microphone to be used.

(6) Be sure the meter switch is on "P.A.PLATE" and the power level switch is on "OPERATE."

(7) Place "CHANNEL" switch on a position corresponding to one of the frequencies to be used on the mission.

(8) When the cycle is completed, check the settings of controls "A," "B," "C," "D," and "E" against readings on the transmitter chart with the zero line of the vernier scale on control "B" previously set so that it is directly above the dial.

(9) Place "EMISSION" switch on "CW" and close "TEST" switch. The plate current should read in the area marked "CW."

(10) Place the meter switch on "P.A.GRID." The meter should read in the area marked "P.A.GRID." Release the "TEST" switch and place the meter switch on "P.A.PLATE."

(11) Place "EMISSION" switch on "MCW."

(12) Listen in the sidetone circuit and close the telegraph key. The receiver hiss should stop and the sidetone signal should be heard. The plate current should be in or near the area marked "MCW." Release "TEST" switch.

(13) Place "EMISSION" switch on "VOICE." Press the microphone button. The plate current should read about 20 or 30 higher than on "CW." Speak or whistle into the microphone. The plate current should read near the area marked "MCW" and may read full scale on loud signals.

(14) Check the control settings against the chart, the "P.A.GRID" and "P.A.PLATE" current on "CW" for each of the other channels it is desired to use on the mission. Connect the proper number of sections of the shunt capacitor for the channels requiring them as indicated on the chart. See section II, sub-paragraph 7*b*(8).

b. DAILY INSPECTION.—The radio transmitting equipment shall be given a thorough visual and operating inspection in accordance with the following:

(1) Inspect Antenna for proper security and tension. Check condition of shock links and antenna wire, cleaning if dirty and replacing if defective. Clean insulators and replace if cracked or chipped.

(2) Inspect the inter-unit connections for broken or damaged wires or cables and for high voltage wires that may be bent too near other objects.

(3) Check the knurled knobs on the front of the transmitter and dynamotor unit, the microphone selector switch under the chart, and all connector plug olcking rings for tiewire.

(4) Check the connection to the receiver, antenna, ground, loading unit, and transmitter making certain the spring connector terminals are making good with the wires.

(5) Check all set components for security of mounting.

(6) Turn on the liaison receiver.

(7) Place "EMISSION" switch on "VOICE" with "LOCAL-REMOTE" switch on "LOCAL" and antenna selector switch on "FIXED ANT." ("FIXED" when using Antenna Switching Unit SA-22/ART-13).

(8) Be sure the meter switch is on "P.A.PLATE" and the power level switch is on "OPERATE."

(9) Place "CHANNEL" switch on a position corresponding to one of the frequencies that is set up on the autotune.

(10) When the cycle is completed, check the settings of controls "A," "B," "C," "D," and "E" against readings on the transmitter chart with the zero line of the vernier scale on control "B" previously set so that it is directly above the dial.

(11) Place "EMISSION" switch on "CW" and close "TEST" switch. The plate current should read in the area marked "CW."

NOTE

If the meter does not indicate a "P.A.PLATE" meter reading with the "CW" portion of the scale, some adjustment of the output loading may be necessary. Before attempting to readjust the output circuit for proper loading, check the battery voltage by rotating the meter switch to the "BATTERY VOLTAGE" position. Read the meter with the key depressed. If the meter reads within the light colored area under "BATTERY," the channel needs readjusting. If the meter reads above or below the colored area, the "P.A.PLATE" current may read above or below the area marked "CW"

Reference Symbol	*Stock No.*	*Type Designation*		*Function*
		JAN—	*VT—*	
V-106	2J811 or 2V217	JAN-811	VT-217	Modulator
V-201	2J12SJ7 or 2V162	JAN-12SJ7	VT-162	1st Audio Amplifier
V-202	2V6V6GT or 2V107-A	JAN-6V6GT	VT-107-A	Audio Driver
V-203	2V6V6GT or 2V107-A	JAN-6V6GT	VT-107-A	Sidetone Amplifier
V-2201	2J12SL7GT	*JAN-12SL7GT		1st Section is 200 kc. calibration oscillator. 2nd Section is Frequency Tripler
V-2202	2J12SA7 or 2V-161	*JAN-12SA7	VT-161	Detector
V-2203	2J12SL7GT	*JAN-12SL7GT		1st Section is Signal Detector. 2nd Section is MCW Audio Oscillator.
V-2601	2J1625 or 2V136	JAN-1625	VT-136	Low Frequency Oscillator.

*Types JAN-12SL7GT and JAN-12SL7 may be used interchangeably. Types JAN-12SA7 and JAN-12SA7GT may be used interchangeably.

b. For Radio Transmitter With Oscillator 0-16/ART-13 and MCW-CFI 8Q-1 Unit Installed.

V-101	2J837 or 2V101	JAN-837	VT-101	High Frequency Oscillator
V-102	2J1625 or 2V136	JAN-1625	VT-136	1st Frequency Multiplier
V-103	2J1625 or 2V136	JAN-1625	VT-136	2nd Frequency Multiplier
V-104	2J813 or 2V144	JAN-813	VT-144	Power Amplifier
V-105	2J811 or 2V127	JAN-811	VT-217	Modulator
V-106	2J811 or 2V217	JAN-811	VT-217	Modulator
V-201	2J12SJ7 or 2V162	JAN-12SJ7	VT-162	1st Audio Amplifier
V-202	2J6V6GT or 2V107-A	JAN-6V6GT	VT-107-A	Audio Driver
V-203	2J6V6GT or 2V107-A	JAN-6V6GT	VT-107-A	Sidetone Amplifier
V-301	2J12SJ7 or 2V162	JAN-12SJ7	VT-162	Calibration Oscillator
V-302	2J12SJ7 or 2V162	JAN-12SJ7	VT-162	MCW Oscillator
V-401	2J1625 or 2V136	JAN-1625	VT-136	Low Frequency Oscillator

2. FUSE COMPLEMENT.

Type No.	*Stock No.*	*Current Rating*	*Location*	
			Active Fuse	*Spare Fuse*
Aircraft type	8800-337360	1 amp.	Dynamotor "400V"	Dynamotor "SPARE"

3. PILOT LAMP COMPLEMENT.

Type Designation	*Stock No.*	*Location*
General Elec. #313		Inside Transmitter
General Elec. #313		Inside Control Box

4. RADIO JAMMING.

Types of jamming likely to be employed by the enemy are:

a. "Spark" jamming is the familiar type of noise obtained from small electric motors, razors, ignition system, etc.

(8) Inspect the commutators and smooth them with 00 sandpaper if they are rough.

(9) Replace the end covers and inspect in accordance with section II, par. 2*a*(2), and, in addition, inspect all relay contacts for pits and burns and all parts for corrosion. Clean the interior.

(10) Remove the antenna loading unit by cutting the tiewire on the four snapslides and the plus locking ring, removing the plugs and the wires to the terminals, loosening the snapslides, and lifting the unit out.

(11) Inspect in accordance with section II, par. 2*a*(5), and, in addition, clean the interior and inspect for corrosion.

(12) If the antenna shunt capacitor is a part of the installation, check it in accordance with section II, par. 2*a*(4) without removing it from the plane.

(13) If the remote control unit is a part of the installation, remove it by cutting the tiewire on the plug locking ring, removing the plug, and loosening the four screws in the corners of the unit.

(14) Inspect in accordance with section II, par. 2*a*(3), and, in addition, clean and inspect for corrosion.

(15) Reinstall all units in accordance with instructions given in section II, par. 3.

(16) Check in accordance with the Daily Inspection procedure outlined in pars. 6*b*(1) through (25) of this section.

7. REPLACEMENTS OF DEFECTIVE ITEMS. (*See paragraphs 2, 3 and 4 this section.*)

Try to localize trouble by replacing MCW-CFI unit, audio amplifier unit, or low frequency oscillator. If proper operation is obtained by replacing any of the above units, leave the good one in the transmitter and send the defective one for repair.

a. To remove the MCW-CFI unit, proceed as follows:

(1) Loosen the two screws of contrasting color, one at each end of the unit.

(2) Lift the unit out.

b. To remove the audio amplifier unit, proceed as follows:

(1) Loosen the two screws of contrasting color, one at each end of the unit.

(2) Unlock and remove the master oscillator tube (JAN-837).

(3) Lift the unit high enough to disengage the plug pins, then move it backward to clear the screw heads on the ends, and lift it out.

c. To remove the low frequency oscillator, proceed as follows:

(1) Remove the JAN-813 tube by removing the plate cap, inserting a small screwdriver under the tube base through one of the ventilating holes in the back, and exerting a light pressure upward while wiggling the tube gently from side to side. The tube lifts straight out; do not twist it.

(2) Remove the lead on the right side of the oscillator where it enters the unit.

(3) Remove the two screws from the back of the oscillator through the space left by removal of the JAN-813 tube.

(4) Remove the seven screws from around the edges of the oscillator's front panel and loosen the adjacent screws across the top of the autotune cover.

(5) Lift the oscillator straight up.

SECTION V

SUPPLEMENTARY DATA

1. TUBE COMPLEMENT.

a. For Radio Transmitter With Oscillator 0-17/ART-13A and MCW-CFI 8Q-2 Unit Installed.

Reference Symbol	*Stock No.*	*Type Designation*		*Function*
		JAN—	*VT—*	
V-101	2J837 or 2V101	JAN-837	VT-101	High Frequency Oscillator
V-102	2J1625 or 2V136	JAN-1625	VT-136	1st Frequency Multiplier
V-103	2J1625 or 2V136	JAN-1625	VT-136	2nd Frequency Multiplier
V-104	2J813 or 2V144	JAN-813	VT-144	Power Amplifier
V-105	2J811 or 2V217	JAN-811	VT-217	Modulator

stop in position "13." If the control stops in any position other than "13," loosen the locking bar and manually operate control "A" to position "13."

e. Refer to table 5-3, section V and select a dial setting under column G that is near the middle of the tuning range. If there is a dial setting listed on each side of the midpoint of the tuning range, select the dial setting on the high-frequency side. For example, 1073 in column G is very near the midpoint of the tuning range of the control. (The exact midpoint is 1000.)

f. Rotate control "G" to the dial setting that has been chosen from the calibration table.

g. Operate power level switch S106 to the "CALIBRATE" position. (This applies 1150 volts d-c to the plates of V104, V105, and V106.)

h. Insert an earphone cord plug into "SIDETONE" output jack J104.

i. While listening to the sidetone amplifier output, rotate control "G" about the setting obtained from the calibration table until exact zero beat is obtained between the output of the low-frequency oscillator and the output of the calibration oscillator.

j. Check the dial setting and lock the dial.

k. Loosen the two setscrews that hold the knob to the shaft of control "G" and, without detuning the circuit, rotate the knob on the shaft until the dial setting corresponds to the setting given in the calibration table. Then tighten the setscrews.

l. Rotate control "G" to the home stop position near zero. Loosen the two setscrews on the counter dial mechanism collar attached to the main oscillator shaft and, holding the mechanism at zero, rotate control "G" to zero. Tighten the setscrews.

m. Turn control "F" to position "5."

n. As explained in steps *e.* and *f.*, select a dial setting from table 5-3 near the middle of the tuning range.

o. Note the numbered slots on the oscillator shield cover exposing trimming capacitor C-411.

p. While listening to the sidetone output, adjust capacitor section E(5) of C411 with any narrow tool until zero beat is obtained between the low-frequency oscillator output and the output of the calibration oscillator.

q. Turn control "F" to position "4" and repeat steps *n.* and *p.*, adjusting section D(4) of C411 instead of section E.

r. Repeat steps *n.* and *p.*, adjusting capacitor trimmer sections C(3), B(2), and A(1) for control "F" positions "3," "2," and "1" respectively.

s. Check the excitation over the entire range of each position of control "F" by rotating control "G" through 20 revolutions for each position of control "F" while watching the "P.A. GRID" meter reading.

7. TABLES OF APPROXIMATE CONTROL SETTINGS (FOR ANTENNA TUNING AND LOADING).

a. These tables (refer to table 5-7) show approximate dial settings for the various frequencies and for various lengths of antennas. The tables are repeated to show settings for the case using the antenna shunt capacitor. The spaces marked with three dots in column D are left blank because of the setting of that control cannot be determined beforehand. All settings are approximate and the procedure outlined for section II, paragraph 7 must be followed to obtain the exact settings.

b. To determine which table to use, measure the length of the antenna, taking the total length of wire from the antenna terminal of the transmitter to the extreme end of the antenna. If the antenna is a "T", disregard the length of wire in the shorter branch, or, if the two branches are equal, include the length of only one of them. To check the choice of table, tune up the set on one of the frequencies given in the table for the antenna length nearest that measured above. Choose a frequency which tunes on position 7 on control C. Compare the actual settings given in this table and also in the tables for the next shorter and the next longer antenna lengths. Of these three tables the one showing control settings closest to the actual control settings is the table to use for this particular installation. Record the type of airplane and a brief description of the antenna in the three lines above that table to identify it so that that table may be readily recognized as the correct one for future use on any frequency.

c. The antenna cannot be tuned at any frequencies below those shown in the tables for the various lengths of antenna.

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Andrews
N.C.

b. "Sweep-through" jamming is the result of sweeping a carrier back and forth across a frequency band at a relatively rapid rate (100 to 600 cycles per second.) The resulting noise is much like that of an airplane engine.

c. "Stepped tone" is a monotonous repetition of three to five audio tones which resembles the Scotch bagpipe. The Germans use this regularly.

d. "Noise jamming sounds the same as noise which is heard when the gain is turned up on a radio receiver that is not tuned to a signal. It may easily be mistaken for receiver noise.

e. Combinations of any of the above types of jamming can be used.

5. PROCEDURE FOR SETTING RECEIVER BC-348 ON A PRE-SELECTED FREQUENCY USING RADIO TRANSMITTER T-47/ART-13 OR T-47A/ART-13 AS A FREQUENCY METER.

a. GENERAL.—The following procedure is to be used for setting the liaison receiver on a pre-selected frequency when it is desired to set the receiver with greater accuracy than the calibration of the receiver provides.

b. PROCEDURE.

(1) Place "LOCAL-REMOTE" switch in "LOCAL" position.

(2) Place "EMISSION" switch in "VOICE" position.

(3) Place "CHANNEL" switch in "MANUAL" position and let the autotune complete its cycle.

(4) Set control "C" on position 1.

(5) Find the desired frequency in the calibration table for the transmitter and note the nearest crystal check point marked in heavy black type.

(6) Set controls "A" and "B" to the position indicated by the table for the crystal check point.

(7) Set the power level switch to "CALIBRATE" positions and listen in the sidetone circuit for a beat note while rotating control "B" back and forth about the position for the crystal check point. Set control "B" on the position that gives zero beat and turn the power level switch to "TUNE" position.

(8) Set the movable indicator mark by means of the "CORRECTOR" knob near control "B" to the reading of control "B" found in column B at this crystal check point.

(9) Refer to the calibration table and obtain the correct setting of control "B" for the frequency it is desired to set on the receiver and set control "B" to that reading.

(10) Turn the receiver on and set the "NORMAL-MONITOR" switch in the airplane to "MONITOR" position.

(11) Set the "C.W. OSC" switch on the receiver in the "ON" position.

(12) Set the "BAND SWITCH" and "TUNING" control on the receiver to the positions corresponding to the frequency it is desired to set up according to the calibration of the receiver.

(13) Set the "BEAT FREQ" control so that the arrow points straight up.

(14) Place the power level switch on the transmitter to "CALIBRATE" position.

(15) Listen in the sidetone for a beat note and adjust the "TUNING" dial on the receiver to the position corresponding to zero beat.

(16) Turn the level switch on the transmitter back to "OPERATE" position and the "NORMAL MONITOR" switch back to "NORMAL."

(17) Turn the "CHANNEL" switch on the transmitter to the position corresponding to the frequency desired for transmission.

The equipment is now ready for operation. Type of emission may be chosen on the transmitter with the "EMISSION" switch. The receiver may be used for any type of reception and any dial on the receiver may be used except the "BAND SWITCH" and the "TUNING" dial without disturbing the frequency set up.

6. CALIBRATION TABLES 5-1, 5-2, 5-3, 5-4, 5-5, and 5-6.

The calibration tables numbered 5-1, 5-2 and 5-3 are for the MCW-CFI-8Q-2 Unit. The first column, headed "FREQ." is the frequency column, the other columns are headed with the letter identifying the control. Tables 5-4, 5-5 and 5-6 are for the MCW-CFI 8Q-1 Unit. The figures in heavy black type are crystal check points.

In tables 5-1 and 5-2 horizontal lines appear at intervals in the columns which serve to indicate the direction of the nearest check point. In these tables always use the check point which appears between the same horizontal dividing lines that the desired frequency appears between. In tables 5-3, 5-4, 5-5, and 5-6 use the first check point (heavy type) that is encountered by either looking back to succeedingly lower frequencies or by looking ahead to succeedingly higher frequencies. The note at the bottom of each table will aid in locating the proper check point.

6A. CALIBRATION INSTRUCTIONS FOR OSCILLATOR O-16/ART-13 (WHEN MCW-CFI 8Q-2 UNIT IS USED.)

If the low-frequency oscillator circuit components have been damaged or replaced, the grid circuit may require realignment. To realign the circuit, perform the following after installing a low-frequency oscillator in the transmitter:

a. Turn control "F" to position "6" (1035 kc to 1500 kc).

b. Rotate "CHANNEL" selector switch S108 to the "LOW FREQ." position.

c. Turn "EMISSION" selector switch S110 to the "VOICE" position.

d. When the auto tune cycle has been completed, check the position of control "A." The control should

TABLE 5-1. CALIBRATION OF OSCILLATOR O-17/ART-13A WHEN MCW-CFI 8Q-2 UNIT IS USED

Frequency: 200—300 Kc

Freq.	*A*	*F*	*G*
200	**13**	**1**	**189.2**
201	13	1	212.0
202	13	1	234.8
203	13	1	256.8
204	13	1	278.0
205	13	1	299.8
206	13	1	321.3
207	13	1	342.8
208	13	1	363.6
209	13	1	384.3
210	13	1	405.0
211	13	1	425.3
212	13	1	445.6
213	13	1	466.5
214	13	1	486.7
215	13	1	508.1
216	13	1	527.5
217	13	1	548.0
218	13	1	568.0
219	13	1	588.0
220	13	1	608.0
221	13	1	628.1
222	13	1	648.2
223	13	1	668.2
224	13	1	688.3
225	**13**	**1**	**708.4**
226	13	1	728.5
227	13	1	748.6
228	13	1	768.6
229	13	1	788.7
230	13	1	808.8
231	13	1	829.2
232	13	1	849.5
233	13	1	869.9
234	13	1	890.2
235	13	1	910.6
236	13	1	931.0
237	13	1	951.3
238	13	1	971.7
239	13	1	992.0
240	13	1	1012.4
241	13	1	1032.8
242	13	1	1053.3
243	13	1	1073.7
244	13	1	1094.2
245	13	1	1114.6
246	13	1	1135.0
247	13	1	1155.5
248	13	1	1175.9
249	13	1	1196.4
250	**13**	**1**	**1216.8**
251	13	1	1237.1
252	13	1	1257.4
253	13	1	1277.8
254	13	1	1298.1
255	13	1	1318.4
256	13	1	1338.7
257	13	1	1359.0
258	13	1	1379.4
259	13	1	1399.7
260	13	1	1420.0
261	13	1	1440.0
262	13	1	1460.9
263	13	1	1481.4
264	13	1	1501.8
265	13	1	1522.2
266	13	1	1542.7
267	13	1	1563.1
268	13	1	1583.6
269	13	1	1604.0
270	13	1	1624.5
271	13	1	1645.6
272	13	1	1666.0
273	13	1	1686.5
274	13	1	1707.2
275	**13**	**1**	**1728.8**
276	13	1	1750.0
277	13	1	1771.0
278	13	1	1792.0
279	13	1	1814.0
280	13	1	1836.0
281	13	1	1858.0
282	13	1	1880.0
283	13	1	1902.2
284	13	1	1925.2
285	13	1	1948.5
285	13	2	118.8
286	13	2	135.7
287	13	2	152.2
288	13	2	168.2
289	13	2	184.2
290	13	2	200.2
291	13	2	215.5
292	13	2	231.0
293	13	2	246.8
294	13	2	261.8
295	13	2	276.5
296	13	2	291.4
297	13	2	306.5
289	13	2	321.5
299	13	2	336.2
300	**13**	**2**	**350.8**

Use nearest check point shown in heavy type

Frequency: 300—400 Kc

Freq.	*A*	*F*	*G*
300	**13**	**2**	**350.8**
301	13	2	365.7
302	13	2	379.4
303	13	2	394.5
304	13	2	408.7
305	13	2	423.5
306	13	2	438.7
307	13	2	452.0
308	13	2	466.0
309	13	2	480.0
310	13	2	494.0
311	13	2	509.2
312	13	2	522.4
313	13	2	536.6
314	13	2	550.6
315	13	2	564.4
316	13	2	578.4
317	13	2	592.2
318	13	2	606.2
319	13	2	320.2
320	13	2	634.2
321	13	2	648.1
322	13	2	662.0
323	13	2	675.8
324	13	2	689.7
325	**13**	**2**	**703.6**
326	13	2	717.5
327	13	2	731.4
328	13	2	745.2
329	13	2	759.1
330	13	2	773.0
331	13	2	786.4
332	13	2	801.0
333	13	2	815.0
334	13	2	829.0
335	13	2	843.0
336	13	2	857.0
337	13	2	871.0
338	13	2	885.0
339	13	2	899.0
340	13	2	913.0
341	13	2	927.2
342	13	2	941.4
343	13	2	955.6
344	13	2	969.8
345	13	2	984.0
346	13	2	998.2
347	13	2	1012.4
348	13	2	1026.6
349	13	2	1040.8
350	**13**	**2**	**1055.0**
351	13	2	1069.1
352	13	2	1083.2
353	13	2	1097.3
354	13	2	1111.4
355	13	2	1125.5
356	13	2	1139.6
357	13	2	1153.7
358	13	2	1167.8
359	13	2	1181.9
360	13	2	1196.0
361	13	2	1210.1
362	13	2	1224.3
363	13	2	1238.4
364	13	2	1252.6
365	13	2	1266.7
366	13	2	1280.9
367	13	2	1295.0
368	13	2	1309.2
369	13	2	1323.3
370	13	2	1337.5
371	13	2	1351.5
372	13	2	1365.6
373	13	2	1379.6
374	13	2	1393.6
375	**13**	**2**	**1407.6**
376	13	2	1421.7
377	13	2	1435.7
378	13	2	1449.7
379	13	2	1463.7
380	13	2	1477.8
381	13	2	1492.0
382	13	2	1506.2
383	13	2	1520.3
384	13	2	1534.5
385	13	2	1548.7
386	13	2	1562.9
387	13	2	1577.1
388	13	2	1591.2
389	13	2	1605.4
390	13	2	1619.6
391	13	2	1634.1
392	13	2	1648.6
393	13	2	1663.2
394	13	2	1677.7
395	13	2	1692.2
396	13	2	1706.7
397	13	2	1721.2
398	13	2	1735.7
399	13	2	1750.3
400	**13**	**2**	**1764.8**

Use nearest check point shown in heavy type

Frequency: 400—500 Kc

Freq.	*A*	*F*	*G*
400	**13**	**2**	**1764.8**
401	13	2	1779.0
402	13	2	1793.7
403	13	2	1809.0
404	13	2	1824.0
405	13	2	1839.4
406	13	2	1854.4
407	13	2	1869.4
408	13	2	1885.0
409	13	2	1900.2
410	13	2	1916.2
411	13	2	1932.2
412	13	2	1948.2
413	13	2	1964.4
414	13	2	1980.3
415	13	2	1997.0
415	13	3	127.2
416	13	3	138.6
417	13	3	150.2
418	13	3	161.3
419	13	3	172.2
420	13	3	183.0
421	13	3	193.8
422	13	3	205.0
423	13	3	215.6
424	13	3	226.6
425	**13**	**3**	**237.2**
426	13	3	247.7
427	13	3	258.2
428	13	3	268.4
429	13	3	277.7
430	13	3	289.2
431	13	3	299.6
432	13	3	310.2
433	13	3	320.4
434	13	3	330.4
435	13	3	340.6
436	13	3	350.8
437	13	3	360.8
438	13	3	370.6
439	13	3	380.4
440	13	3	390.4
441	13	3	400.3
442	13	3	410.1
443	13	3	420.0
444	13	3	429.8
445	13	3	439.7
446	13	3	449.6
447	13	3	459.4
448	13	3	469.3
449	13	3	479.1
450	**13**	**3**	**489.0**
451	13	3	498.7
452	13	3	508.4
453	13	3	518.0
454	13	3	527.7
455	13	3	537.4
456	13	3	547.1
457	13	3	556.8
458	13	3	566.4
459	13	3	576.1
460	13	3	585.8
461	13	3	595.4
462	13	3	605.0
463	13	3	614.6
464	13	3	624.2
465	13	3	633.8
466	13	3	643.4
467	13	3	653.0
468	13	3	662.6
469	13	3	672.2
470	13	3	681.8
471	13	3	691.4
472	13	3	701.0
473	13	3	710.5
474	13	3	720.1
475	**13**	**3**	**729.7**
476	13	3	739.3
477	13	3	748.9
478	13	3	758.4
479	13	3	768.0
480	13	3	777.6
481	13	3	787.3
482	13	3	796.9
483	13	3	806.6
484	13	3	816.2
485	13	3	825.9
486	13	3	835.6
487	13	3	845.2
488	13	3	854.9
489	13	3	864.5
490	13	3	874.2
491	13	3	884.0
492	13	3	893.7
493	13	3	903.5
494	13	3	913.2
495	13	3	923.3
496	13	3	932.8
497	13	3	942.5
498	13	3	952.3
499	13	3	962.0
500	**13**	**3**	**971.8**

Use nearest check point shown in heavy type

Frequency: 500—600 Kc

Freq.	*A*	*F*	*G*
500	**13**	**3**	**971.8**
501	13	3	981.6
502	13	3	991.3
503	13	3	1001.1
504	13	3	1010.9
505	13	3	1020.6
506	13	3	1030.4
507	13	3	1040.2
508	13	3	1050.0
509	13	3	1059.7
510	13	3	1069.5
511	13	3	1079.2
512	13	3	1089.0
513	13	3	1098.8
514	13	3	1108.5
515	13	3	1118.2
516	13	3	1128.0
517	13	3	1137.7
518	13	3	1147.5
519	13	3	1157.3
520	13	3	1167.0
521	13	3	1176.8
522	13	3	1186.5
523	13	3	1196.2
524	13	3	1206.0
525	**13**	**3**	**1215.7**
526	13	3	1225.5
527	13	3	1235.2
528	13	3	1245.0
529	13	3	1254.7
530	13	3	1264.5
531	13	3	1274.2
532	13	3	1283.9
533	13	3	1293.6
534	13	3	1303.2
535	13	3	1312.9
536	13	3	1322.6
537	13	3	1332.3
538	13	3	1342.0
539	13	3	1351.7
540	13	3	1361.4
541	13	3	1371.1
542	13	3	1380.8
543	13	3	1390.4
544	13	3	1400.1
545	13	3	1409.8
546	13	3	1419.5
547	13	3	1429.2
548	13	3	1438.8
549	13	3	1448.5
550	**13**	**3**	**1458.2**
551	13	3	1467.9
552	13	3	1477.7
553	13	3	1487.4
554	13	3	1497.1
555	13	3	1506.9
556	13	3	1516.6
557	13	3	1526.3
558	13	3	1536.1
559	13	3	1545.9
560	13	3	1555.6
561	13	3	1565.4
562	13	3	1575.2
563	13	3	1585.1
564	13	3	1594.9
565	13	3	1604.7
566	13	3	1614.5
567	13	3	1624.3
568	13	3	1634.3
569	13	3	1644.0
570	13	3	1653.8
571	13	3	1663.8
572	13	3	1673.2
573	13	3	1682.0
574	13	3	1692.8
575	**13**	**3**	**1703.0**
576	13	3	1713.0
577	13	3	1723.0
578	13	3	1733.4
579	13	3	1743.4
580	13	3	1753.4
581	13	3	1763.4
582	13	3	1773.2
583	13	3	1783.2
584	13	3	1793.8
585	13	3	1804.0
586	13	3	1814.4
587	13	3	1824.8
588	13	3	1835.2
589	13	3	1845 9
590	13	3	1856.2
591	13	3	1866.4
592	13	3	1877.0
593	13	3	1887.5
594	13	3	1898.0
595	13	3	1909.0
596	13	3	1920.0
597	13	3	1931.0
598	13	3	1942.0
599	13	3	1953.0
600	**13**	**3**	**1964.0**

Use nearest check point shown in heavy type

TABLE 5-1

CALIBRATION OF OSCILLATOR O-17/ART-13A WHEN MCW-CFI 8Q-2 UNIT IS USED

200 Kc to 600 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED

Frequency: 2000—2100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
2000	**1**	**100.1**	2034	1	225.4	2068	1	350.8
2001	1	103.8	2035	1	229.1	2069	1	354.5
2002	1	107.5	2036	1	232.7			
2003	1	111.2	2037	1	236.4	2070	1	358.1
2004	1	114.9	2038	1	240.1	2071	1	361.8
2005	1	118.6	2039	1	243.8	2072	1	365.5
2006	1	122.3				2073	1	369.2
2007	1	126.0	2040	1	247.4	2074	1	372.9
2008	1	129.7	2041	1	251.1	2075	1	376.6
2009	1	133.4	2042	1	254.8	2076	1	380.3
			2043	1	258.5	2077	1	384.0
2010	1	137.1	2044	1	262.2	2078	1	387.7
2011	1	140.8	2045	1	265.9	2079	1	391.4
2012	1	144.5	2046	1	269.6			
2013	1	148.2	2047	1	273.2	2080	1	395.1
2014	1	151.9	2048	1	276.9	2081	1	398.8
2015	1	155.6	2049	1	280.6	2082	1	402.5
2016	1	159.2				2083	1	406.2
2017	1	162.9	2050	1	284.3	2084	1	410.0
2018	1	166.6	2051	1	288.0	2085	1	413.7
2019	1	170.3	2052	1	291.7	2086	1	417.4
			2053	1	295.4	2087	1	421.2
2020	1	174.0	2054	1	299.1	2088	1	424.9
2021	1	177.7	2055	1	302.8	2089	1	428.6
2022	1	181.3	2056	1	306.5			
2023	1	185.0	2057	1	310.2	2090	1	432.3
2024	1	188.7	2058	1	313.9	2091	1	436.1
2025	1	192.3	2059	1	317.5	2092	1	439.8
2026	1	196.0				2093	1	443.5
2027	1	199.7	2060	1	321.2	2094	1	447.2
2028	1	203.4	2061	1	324.9	2095	1	451.0
2029	1	207.0	2062	1	328.6	2096	1	454.7
			2063	1	332.3	2097	1	458.4
2030	1	210.7	2064	1	336.0	2098	1	462.1
2031	1	214.4	2065	1	339.7	2099	1	465.9
2032	1	218.0	2066	1	343.4			
2033	1	221.7	2067	1	347.1	**2100**	**1**	**469.6**

Use check point at 2000 or 2100 Kc, whichever is nearer

Frequency: 2100—2200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
2100	**1**	**469.6**	2134	1	596.4	2168	1	723.5
2101	1	473.3	2135	1	600.1	2169	1	727.2
2102	1	477.0	2136	1	603.9			
2103	1	480.7	2137	1	607.6	2170	1	731.0
2104	1	484.4	2138	1	611.4	2171	1	734.7
2105	1	488.2	2139	1	615.1	2172	1	738.5
2106	1	491.9				2173	1	742.2
2107	1	495.6	2140	1	618.8	2174	1	746.0
2108	1	499.3	2141	1	622.6	2175	1	749.7
2109	1	503.0	2142	1	626.3	2176	1	753.5
			2143	1	630.1	2177	1	757.2
2110	1	506.7	2144	1	633.8	2178	1	761.0
2111	1	510.5	2145	1	637.5	2179	1	764.7
2112	1	514.2	2146	1	641.3			
2113	1	517.9	2147	1	645.0	2180	1	768.5
2114	1	521.7	2148	1	648.8	2181	1	772.2
2115	1	525.4	2149	1	652.5	2182	1	775.9
2116	1	529.2				2183	1	779.6
2117	1	532.9	2150	1	656.2	2184	1	783.3
2118	1	536.6	2151	1	660.0	2185	1	787.1
2119	1	540.4	2152	1	663.7	2186	1	790.8
			2153	1	667.4	2187	1	794.5
2120	1	544.1	2154	1	671.2	2188	1	798.2
2121	1	547.9	2155	1	674.9	2189	1	802.0
2122	1	551.6	2156	1	678.6			
2123	1	555.3	2157	1	682.4	2190	1	805.7
2124	1	559.0	2158	1	686.1	2191	1	809.4
2125	1	562.8	2159	1	689.8	2192	1	813.1
2126	1	566.5				2193	1	816.9
2127	1	570.2	2160	1	693.6	2194	1	820.6
2128	1	574.0	2161	1	697.3	2195	1	824.3
2129	1	577.7	2162	1	701.1	2196	1	828.1
			2163	1	704.8	2197	1	831.8
2130	1	581.4	2164	1	708.5	2198	1	835.5
2131	1	585.2	2165	1	712.3	2199	1	839.3
2132	1	588.9	2166	1	716.0			
2133	1	592.6	2167	1	719.8	**2200**	**1**	**843.0**

Use check point at 2100 or 2200 Kc. whichever is nearer

Frequency: 2200—2300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
2200	**1**	**843.0**	2234	1	969.1	2268	1	1094.6
2201	1	846.7	2235	1	972.8	2269	1	1098.2
2202	1	850.4	2236	1	976.5			
2203	1	854.1	2237	1	980.2	2270	1	1101.9
2204	1	857.8	2238	1	983.9	2271	1	1105.6
2205	1	861.6	2239	1	987.6	2272	1	1109.3
2206	1	865.3				2273	1	1112.9
2207	1	869.0	2240	1	991.2	2274	1	1116.6
2208	1	872.7	2241	1	994.9	2275	1	1120.3
2209	1	876.4	2242	1	998.6	2276	1	1123.9
			2243	1	1002.3	2277	1	1127.6
2210	1	880.1	2244	1	1006.0	2278	1	1131.3
2211	1	883.8	2245	1	1009.8	2279	1	1134.9
2212	1	887.5	2246	1	1013.5			
2213	1	891.3	2247	1	1017.2	2280	1	1138.6
2214	1	895.0	2248	1	1020.9	2281	1	1142.3
2215	1	898.7	2249	1	1024.6	2282	1	1145.9
2216	1	902.4				2283	1	1149.6
2217	1	906.1	2250	1	1028.3	2284	1	1153.3
2218	1	909.8	2251	1	1032.0	2285	1	1156.9
2219	1	913.5	2252	1	1035.7	2286	1	1160.6
			2253	1	1039.4	2287	1	1164.2
2220	1	917.2	2254	1	1043.1	2288	1	1167.9
2221	1	921.0	2255	1	1046.8	2289	1	1171.6
2222	1	924.7	2256	1	1050.5			
2223	1	928.4	2257	1	1054.2	2290	1	1175.2
2224	1	932.1	2258	1	1057.9	2291	1	1178.9
2225	1	935.8	2259	1	1061.6	2292	1	1182.5
2226	1	939.5				2293	1	1186.2
2227	1	943.2	2260	1	1065.3	2294	1	1189.9
2228	1	946.9	2261	1	1068.9	2295	1	1193.5
2229	1	950.6	2262	1	1072.6	2296	1	1197.2
			2263	1	1076.3	2297	1	1200.8
2230	1	954.3	2264	1	1079.9	2298	1	1204.5
2231	1	958.0	2265	1	1083.6	2299	1	1208.1
2232	1	961.7	2266	1	1087.3			
2233	1	965.4	2267	1	1090.9	**2300**	**1**	**1211.8**

Use check point at 2200 or 2300 Kc, whichever is nearer

Frequency: 2300—2400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
2300	**1**	**1211.8**	2334	1	1336.2	2368	1	1460.6
2301	1	1215.4	2335	1	1339.8	2369	1	1464.2
2302	1	1219.1	2336	1	1343.5			
2303	1	1222.7	2337	1	1347.1	2370	1	1467.9
2304	1	1226.4	2338	1	1350.8	2371	1	1471.6
2305	1	1230.0	2339	1	1354.5	2372	1	1475.3
2306	1	1233.7				2373	1	1479.0
2307	1	1237.3	2340	1	1358.1	2374	1	1482.7
2308	1	1241.0	2341	1	1361.8	2375	1	1486.4
2309	1	1244.6	2342	1	1365.4	2376	1	1490.0
			2343	1	1369.1	2377	1	1493.7
2310	1	1248.3	2344	1	1372.7	2378	1	1497.4
2311	1	1252.0	2345	1	1376.4	2379	1	1501.1
2312	1	1255.6	2346	1	1380.0			
2313	1	1259.3	2347	1	1383.7	2380	1	1504.8
2314	1	1262.9	2348	1	1387.3	2381	1	1508.5
2315	1	1266.6	2349	1	1391.0	2382	1	1512.2
2316	1	1270.2				2383	1	1515.9
2317	1	1273.9	2350	1	1394.6	2384	1	1519.6
2318	1	1277.5	2351	1	1398.3	2385	1	1523.3
2319	1	1281.2	2352	1	1402.0	2386	1	1527.0
			2353	1	1405.7	2387	1	1530.7
2320	1	1284.8	2354	1	1409.3	2388	1	1534.3
2321	1	1288.5	2355	1	1413.0	2389	1	1538.0
2322	1	1292.2	2356	1	1416.7			
2323	1	1295.8	2357	1	1420.3	2390	1	1541.7
2324	1	1299.5	2358	1	1424.0	2391	1	1545.4
2325	1	1303.2	2359	1	1427.7	2392	1	1549.1
2326	1	1306.8				2393	1	1552.9
2327	1	1310.5	2360	1	1431.4	2394	1	1556.6
2328	1	1314.2	2361	1	1435.0	2395	1	1560.3
2329	1	1317.9	2362	1	1438.7	2396	1	1564.0
			2363	1	1442.3	2397	1	1567.7
2330	1	1321.5	2364	1	1446.0	2398	1	1571.4
2331	1	1325.2	2365	1	1449.6	2399	1	1575.1
2332	1	1328.8	2366	1	1453.3			
2333	1	1332.5	2367	1	1456.9	**2400**	**1**	**1578.9**

Use check point at 2300 or 2400 Kc, whichever is nearer

TABLE 5-2

CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED.

2,000 Kc to 18,100 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 2800—2900 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
2800	**2**	**1285.3**	2834	2	1388.4	2868	2	1491.9
2801	2	1288.3	2835	2	1391.4	2869	2	1495.0
2802	2	1291.4	2836	2	1394.5			
2803	2	1294.4	2837	2	1397.5	2870	2	1498.0
2804	2	1297.4	2838	2	1400.5	2871	2	1501.1
2805	2	1300.5	2839	2	1403.6	2872	2	1504.2
2806	2	1303.5				2873	2	1507.2
2807	2	1306.6	2840	2	1406.6	2874	2	1510.3
2808	2	1309.6	2841	2	1409.6	2875	2	1513.4
2809	2	1312.6	2842	2	1412.7	2876	2	1516.4
			2843	2	1415.7	2877	2	1519.5
2810	2	1315.7	2844	2	1418.8	2878	2	1522.5
2811	2	1318.7	2845	2	1421.8	2879	2	1525.6
2812	2	1321.7	2846	2	1424.9			
2813	2	1324.8	2847	2	1427.9	2880	2	1528.7
2814	2	1327.8	2848	2	1431.0	2881	2	1531.7
2815	2	1330.8	2849	2	1434.0	2882	2	1534.8
2816	2	1333.8				2883	2	1537.9
2817	2	1336.9	2850	2	1437.1	2884	2	1540.9
2818	2	1339.9	2851	2	1440.1	2885	2	1544.0
2819	2	1342.9	2852	2	1443.2	2886	2	1547.0
			2853	2	1446.2	2887	2	1550.1
2820	2	1346.0	2854	2	1449.3	2888	2	1553.2
2821	2	1349.0	2855	2	1452.4	2889	2	1556.2
2822	2	1352.0	2856	2	1455.4			
2823	2	1355.1	2857	2	1458.5	2890	2	1559.3
2824	2	1358.1	2858	2	1461.5	2891	2	1562.4
2825	2	1361.1	2859	2	1464.6	2892	2	1565.4
2826	2	1364.2				2893	2	1568.5
2827	2	1367.2	2860	2	1467.6	2894	2	1571.6
2828	2	1370.2	2861	2	1470.7	2895	2	1574.7
2829	2	1373.2	2862	2	1473.7	2896	2	1577.8
			2863	2	1476.8	2897	2	1580.8
2830	2	1376.3	2864	2	1479.8	2898	2	1583.9
2831	2	1379.3	2865	2	1482.8	2899	2	1587.0
2832	2	1382.3	2866	2	1485.9			
2833	2	1385.4	2867	2	1488.9	**2900**	**2**	**1590.1**

Use check point a 2800 or 2900 Kc, whichever is nearer

Frequency: 2900—3000 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
2900	**2**	**1590.1**	2934	2	1696.2	2968	2	1804.7
2901	2	1593.2	2935	2	1699.3	2969	2	1808.0
2902	2	1596.3	2936	2	1702.5			
2903	2	1599.4	2937	2	1705.7	2970	2	1811.2
2904	2	1602.5	2938	2	1708.8	2971	2	1814.4
2905	2	1605.6	2939	2	1712.0	2972	2	1817.7
2906	2	1608.7				2973	2	1820.9
2907	2	1611.8	2940	2	1715.1	2974	2	1824.2
2908	2	1614.9	2941	2	1718.3	2975	2	1827.4
2909	2	1618.0	2942	2	1721.5	2976	2	1830.7
			2943	2	1724.6	2977	2	1833.9
2910	2	1621.1	2944	2	1727.8	2978	2	1837.2
2911	2	1624.2	2945	2	1731.0	2979	2	1840.4
2912	2	1627.3	2946	2	1734.1			
2913	2	1630.4	2947	2	1737.3	2980	2	1843.7
2914	2	1633.5	2948	2	1740.5	2981	2	1847.0
2915	2	1636.7	2949	2	1743.6	2982	2	1850.3
2916	2	1639.8				2983	2	1853.6
2917	2	1642.9	2950	2	1746.8	2984	2	1856.9
2918	2	1646.0	2951	2	1750.0	2985	2	1860.2
2919	2	1649.1	2952	2	1753.2	2986	2	1863.5
			2953	2	1756.4	2987	2	1866.8
2920	2	1652.3	2954	2	1759.6	2988	2	1870.1
2921	2	1655.4	2955	2	1762.8	2989	2	1873.5
2922	2	1658.5	2956	2	1766.0			
2923	2	1661.7	2957	2	1769.3	2990	2	1876.8
2924	2	1664.8	2958	2	1772.5	2991	2	1880.1
2925	2	1667.9	2959	2	1775.7	2992	2	1883.4
2926	2	1671.0				2993	2	1886.7
2927	2	1674.2	2960	2	1778.9	2994	2	1890.1
2928	2	1677.3	2961	2	1782.1	2995	2	1893.4
2929	2	1680.4	2962	2	1785.3	2996	2	1896.7
			2963	2	1788.6	2997	2	1900.0
2930	2	1683.6	2964	2	1791.8	2998	2	1903.4
2931	2	1686.7	2965	2	1795.0	2999	2	1906.7
2932	2	1689.9	2966	2	1798.3			
2933	2	1693.0	2967	2	1801.5	**3000**	**2**	**1910.0**

Use check point at 2900 or 3000 Kc, whichever is nearer

Frequency: 3000—3100 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
3000	**3**	**100.1**	3034	3	183.8	3068	3	267.1
3001	3	102.6	3035	3	186.2	3069	3	269.6
3002	3	105.1	3036	3	188.7			
3003	3	107.5	3037	3	191.1	3070	3	272.0
3004	3	110.0	3038	3	193.6	3071	3	274.5
3005	3	112.5	3039	3	196.0	3072	3	276.9
3006	3	114.9				3073	3	279.4
3007	3	117.4	3040	3	198.5	3074	3	281.8
3008	3	119.9	3041	3	200.9	3075	3	284.3
3009	3	122.3	3042	3	203.4	3076	3	286.8
			3043	3	205.8	3077	3	289.2
3010	3	124.8	3044	3	208.3	3078	3	291.7
3011	3	127.3	3045	3	210.7	3079	3	294.1
3012	3	129.7	3046	3	213.2			
3013	3	132.2	3047	3	215.6	3080	3	296.6
3014	3	134.7	3048	3	218.1	3081	3	299.1
3015	3	137.1	3049	3	220.5	3082	3	301.5
3016	3	139.6				3083	3	304.0
3017	3	142.1	3050	3	223.0	3084	3	306.5
3018	3	144.5	3051	3	225.4	3085	3	308.9
3019	3	147.0	3052	3	227.9	3086	3	311.4
			3053	3	230.3	3087	3	313.9
3020	3	149.4	3054	3	232.8	3088	3	316.3
3021	3	151.9	3055	3	235.2	3089	3	318.8
3022	3	154.3	3056	3	237.7			
3023	3	156.8	3057	3	240.1	3090	3	321.2
3024	3	159.3	3058	3	242.6	3091	3	323.7
3025	3	161.7	3059	3	245.0	3092	3	326.2
3026	3	164.2				3093	3	328.6
3027	3	166.6	3060	3	247.5	3094	3	331.1
3028	3	169.1	3061	3	249.9	3095	3	333.5
3029	3	171.5	3062	3	252.4	3096	3	336.0
			3063	3	254.8	3097	3	338.5
3030	3	174.0	3064	3	257.3	3098	3	340.9
3031	3	176.4	3065	3	259.7	3099	3	343.4
3032	3	178.9	3066	3	262.2			
3033	3	181.3	3067	3	264.6	3100	3	345.8

Use check point at 3000 or 3150 Kc, whichever is nearer

Frequency: 3100—3200 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
3100	3	345.8	3134	3	429.8	3168	3	514.2
3101	3	348.3	3135	3	432.3	3169	3	516.7
3102	3	350.8	3136	3	434.8			
3103	3	353.2	3137	3	437.3	3170	3	519.2
3104	3	355.7	3138	3	439.8	3171	3	521.7
3105	3	358.1	3139	3	442.3	3172	3	524.2
3106	3	360.6				3173	3	526.7
3107	3	363.1	3140	3	444.7	3174	3	529.2
3108	3	365.5	3141	3	447.2	3175	3	531.7
3109	3	368.0	3142	3	449.7	3176	3	534.1
			3143	3	452.2	3177	3	536.6
3110	3	370.4	3144	3	454.7	3178	3	539.1
3111	3	372.9	3145	3	457.2	3179	3	541.6
3112	3	375.4	3146	3	459.6			
3113	3	377.8	3147	3	462.1	3180	3	544.1
3114	3	380.3	3148	3	464.6	3181	3	546.6
3115	3	382.8	3149	3	467.1	3182	3	549.1
3116	3	385.2				3183	3	551.6
3117	3	387.7	**3150**	**3**	**469.6**	3184	3	554.1
3118	3	390.1	3151	3	472.1	3185	3	556.6
3119	3	392.6	3152	3	474.5	3186	3	559.0
			3153	3	477.0	3187	3	561.5
3120	3	395.1	3154	3	479.5	3188	3	564.0
3121	3	397.5	3155	3	482.0	3189	3	566.5
3122	3	400.0	3156	3	484.4			
3123	3	402.5	3157	3	486.9	3190	3	569.0
3124	3	405.0	3158	3	489.4	3191	3	571.5
3125	3	407.5	3159	3	491.9	3192	3	574.0
3126	3	410.0				3193	3	576.4
3127	3	412.5	3160	3	494.3	3194	3	578.9
3128	3	414.9	3161	3	496.8	3195	3	581.4
3129	3	417.4	3162	3	499.3	3196	3	583.9
			3163	3	501.8	3197	3	586.4
3130	3	419.9	3164	3	504.2	3198	3	588.9
3131	3	422.4	3165	3	506.7	3199	3	591.4
3132	3	424.9	3166	3	509.2			
3133	3	427.4	3167	3	511.7	3200	3	593.9

Use check point at 3150 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 2400–2500 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
2400	**2**	**60.0**	2434	2	164.0	2468	2	267.4
2401	2	63.1	2435	2	167.0	2469	2	270.4
2402	2	66.1	2436	2	170.0			
2403	2	69.2	2437	2	173.1	2470	2	273.5
2404	2	72.3	2438	2	176.1	2471	2	276.5
2405	2	75.3	2439	2	179.1	2472	2	279.6
2406	2	78.4				2473	2	282.6
2407	2	81.5	2440	2	182.2	2474	2	285.7
2408	2	84.5	2441	2	185.2	2475	2	288.7
2409	2	87.6	2442	2	188.3	2476	2	291.7
			2443	2	191.3	2477	2	294.8
2410	2	90.7	2444	2	194.3	2478	2	297.8
2411	2	93.7	2445	2	197.4	2479	2	300.9
2412	2	96.8	2446	2	200.4			
2413	2	99.9	2447	2	203.5	2480	2	303.9
2414	2	102.9	2448	2	206.5	2481	2	307.0
2415	2	106.0	2449	2	209.6	2482	2	310.0
2416	2	109.1				2483	2	313.1
2417	2	112.1	2450	2	212.6	2484	2	316.1
2418	2	115.2	2451	2	215.6	2485	2	319.2
2419	2	118.3	2452	2	218.7	2486	2	322.2
			2453	2	221.7	2487	2	325.3
2420	2	121.3	2454	2	224.7	2488	2	328.4
2421	2	124.4	2455	2	227.8	2489	2	331.4
2422	2	127.4	2456	2	230.8			
2423	2	130.5	2457	2	233.9	2490	2	334.5
2424	2	133.5	2458	2	236.9	2491	2	337.5
2425	2	136.6	2459	2	239.9	2492	2	340.6
2426	2	139.6				2493	2	343.7
2427	2	142.7	2460	2	243.0	2494	2	346.8
2428	2	145.7	2461	2	246.0	2495	2	349.8
2429	2	148.8	2462	2	249.1	2496	2	352.9
			2463	2	252.1	2497	2	356.0
2430	2	151.8	2464	2	255.2	2498	2	359.0
2431	2	154.9	2465	2	258.2	2499	2	362.1
2432	2	157.9	2466	2	261.3			
2433	2	160.9	2467	2	264.3	**2500**	**2**	**365.2**

Use check point at 2400 or 2500 Kc, whichever is nearer

Frequency: 2500–2600 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
2500	**2**	**365.2**	2534	2	469.5	2568	2	574.4
2501	2	368.2	2535	2	472.5	2569	2	577.5
2502	2	371.3	2536	2	475.6			
2503	2	374.3	2537	2	478.6	2570	2	580.6
2504	2	377.3	2538	2	481.7	2571	2	583.7
2505	2	380.4	2539	2	484.8	2572	2	586.8
2506	2	383.4				2573	2	589.9
2507	2	386.5	2540	2	487.8	2574	2	593.0
2508	2	389.5	2541	2	490.9	2575	2	596.1
2509	2	392.6	2542	2	494.0	2576	2	599.2
			2543	2	497.2	2577	2	602.3
2510	2	395.6	2544	2	500.3	2578	2	605.4
2511	2	398.7	2545	2	503.4	2579	2	608.5
2512	2	401.8	2546	2	506.5			
2513	2	404.8	2547	2	509.6	2580	2	611.6
2514	2	407.9	2548	2	512.7	2581	2	614.7
2515	2	411.0	2549	2	515.8	2582	2	617.8
2516	2	414.1				2583	2	620.9
2517	2	417.2	2550	2	518.9	2584	2	623.9
2518	2	420.2	2551	2	522.0	2585	2	627.0
2519	2	423.3	2552	2	525.1	2586	2	630.1
			2553	2	528.2	2587	2	633.2
2520	2	426.4	2554	2	531.2	2588	2	636.3
2521	2	429.5	2555	2	534.3	2589	2	639.4
2522	2	432.6	2556	2	537.4			
2523	2	435.6	2557	2	540.5	2590	2	642.5
2524	2	438.7	2558	2	543.6	2591	2	645.6
2525	2	441.8	2559	2	546.6	2592	2	648.7
2526	2	444.9				2593	2	651.8
2527	2	448.0	2560	2	549.7	2594	2	654.9
2528	2	451.1	2561	2	552.8	2595	2	658.0
2529	2	454.2	2562	2	555.9	2596	2	661.1
			2563	2	559.0	2597	2	664.1
2530	2	457.2	2564	2	562.1	2598	2	667.2
2531	2	460.3	2565	2	565.2	2599	2	670.3
2532	2	463.4	2566	2	568.2			
2533	2	466.4	2567	2	571.3	**2600**	**2**	**673.4**

Use check point at 2500 or 2600 Kc, whichever is nearer

Frequency: 2600–2700 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
2600	**2**	**673.4**	2634	2	778.3	2668	2	883.1
2601	2	676.5	2635	2	781.4	2669	2	886.1
2602	2	679.6	2636	2	784.5			
2603	2	682.7	2637	2	787.6	2670	2	889.1
2604	2	685.7	2638	2	790.7	2671	2	892.2
2605	2	688.8	2639	2	793.8	2672	2	895.3
2606	2	691.9				2673	2	898.4
2607	2	695.0	2640	2	796.9	2674	2	901.5
2608	2	698.1	2641	2	800.0	2675	2	904.6
2609	2	701.2	2642	2	803.1	2676	2	907.7
			2643	2	806.2	2677	2	910.8
2610	2	704.2	2644	2	809.3	2678	2	913.8
2611	2	707.3	2645	2	812.4	2679	2	916.9
2612	2	710.4	2646	2	815.5			
2613	2	713.5	2647	2	818.6	2680	2	920.0
2614	2	716.6	2648	2	821.7	2681	2	923.1
2615	2	719.8	2649	2	824.9	2682	2	926.1
2616	2	722.9				2683	2	929.2
2617	2	726.0	2650	2	828.0	2684	2	932.3
2618	2	729.1	2651	2	831.0	2685	2	935.3
2619	2	732.2	2652	2	834.1	2686	2	938.4
			2653	2	837.2	2687	2	941.5
2620	2	735.3	2654	2	840.3	2688	2	944.5
2621	2	738.3	2655	2	843.4	2689	2	947.6
2622	2	741.4	2656	2	846.4			
2623	2	744.5	2657	2	849.5	2690	2	950.7
2624	2	747.5	2658	2	852.6	2691	2	953.7
2625	2	750.6	2659	2	855.7	2692	2	956.8
2626	2	753.7				2693	2	959.9
2627	2	756.8	2660	2	858.8	2694	2	962.9
2628	2	759.8	2661	2	861.8	2695	2	966.0
2629	2	762.9	2662	2	864.8	2696	2	969.1
			2663	2	867.9	2697	2	972.2
2630	2	766.0	2664	2	870.9	2698	2	975.2
2631	2	769.1	2665	2	874.0	2699	2	978.3
2632	2	772.1	2666	2	877.0			
2633	2	775.2	2667	2	880.0	**2700**	**2**	**981.4**

Use check point at 2600 or 2700 Kc, whichever is nearer

Frequency: 2700–2800 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
2700	**2**	**981.4**	2734	2	1085.2	2768	2	1188.4
2701	2	984.4	2735	2	1088.2	2769	2	1191.4
2702	2	987.5	2736	2	1091.3			
2703	2	990.5	2737	2	1094.3	2770	2	1194.4
2704	2	993.6	2738	2	1097.3	2771	2	1197.5
2705	2	996.7	2739	2	1100.4	2772	2	1200.5
2706	2	999.7				2773	2	1203.6
2707	2	1002.8	2740	2	1103.4	2774	2	1206.6
2708	2	1005.8	2741	2	1106.5	2775	2	1209.7
2709	2	1008.9	2742	2	1109.5	2776	2	1212.7
			2743	2	1112.6	2777	2	1215.8
2710	2	1012.0	2744	2	1115.6	2778	2	1218.8
2711	2	1015.0	2745	2	1118.6	2779	2	1221.9
2712	2	1018.1	2746	2	1121.7			
2713	2	1021.1	2747	2	1124.7	2780	2	1224.9
2714	2	1024.2	2748	2	1127.8	2781	2	1227.9
2715	2	1027.2	2749	2	1130.8	2782	2	1230.9
2716	2	1030.3				2783	2	1234.0
2717	2	1033.3	2750	2	1133.8	2784	2	1237.0
2718	2	1036.4	2751	2	1136.9	2785	2	1240.0
2719	2	1039.4	2752	2	1139.9	2786	2	1243.0
			2753	2	1143.0	2787	2	1246.0
2720	2	1042.5	2754	2	1146.0	2788	2	1249.1
2721	2	1045.5	2755	2	1149.0	2789	2	1252.1
2722	2	1048.6	2756	2	1152.1			
2723	2	1051.6	2757	2	1155.1	2790	2	1255.1
2724	2	1054.7	2758	2	1158.1	2791	2	1258.1
2725	2	1057.7	2759	2	1161.2	2792	2	1261.1
2726	2	1060.8				2793	2	1264.2
2727	2	1063.8	2760	2	1164.2	2794	2	1267.2
2728	2	1066.9	2761	2	1167.2	2795	2	1270.2
2729	2	1069.9	2762	2	1170.3	2796	2	1273.2
			2763	2	1173.3	2797	2	1276.2
2730	2	1073.0	2764	2	1176.3	2798	2	1279.3
2731	2	1076.0	2765	2	1179.3	2799	2	1282.3
2732	2	1079.1	2766	2	1182.4			
2733	2	1082.1	2767	2	1185.4	**2800**	**2**	**1285.3**

Use check point at 2700 or 2800 Kc, whichever is nearer

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 3600–3700 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
3600	**4**	**60.0**	3634	4	129.5	3668	4	198.4
3601	4	62.0	3635	4	131.5	3669	4	200.4
3602	4	64.1	3636	4	133.5			
3603	4	66.1	3637	4	135.6	3670	4	202.5
3604	4	68.2	3638	4	137.6	3671	4	204.5
3605	4	70.2	3639	4	139.6	3672	4	206.5
3606	4	72.3				3673	4	208.5
3607	4	74.3	3640	4	141.7	3674	4	210.6
3608	4	76.4	3641	4	143.7	3675	4	212.6
3609	4	78.4	3642	4	145.7	3676	4	214.6
			3643	4	147.7	3677	4	216.6
3610	4	80.4	3644	4	149.8	3678	4	218.7
3611	4	82.5	3645	4	151.8	3679	4	220.7
3612	4	84.5	3646	4	153.8			
3613	4	86.6	3647	4	155.9	3680	4	222.7
3614	4	88.6	3648	4	157.9	3681	4	224.7
3615	4	90.7	3649	4	159 9	3682	4	226.8
3616	4	92.7				3683	4	228.8
3617	4	94.7	3650	4	161.9	3684	4	230.8
3618	4	96.8	3651	4	164.0	3685	4	232.8
3619	4	98.8	3652	4	166.0	3686	4	234.9
			3653	4	168.0	3687	4	236.9
3620	4	100.9	3654	4	170.0	3688	4	238.9
3621	4	102.9	3655	4	172.1	3689	4	240.9
3622	4	105.0	3656	4	174.1			
3623	4	107.0	3657	4	176.1	3690	4	243.0
3624	4	109.1	3658	4	178.1	3691	4	245.0
3625	4	111.1	3659	4	180.2	3692	4	247.0
3626	4	113.1				3693	4	249.1
3627	4	115.2	3660	4	182.2	3694	4	251.1
3628	4	117.2	3661	4	184.2	3695	4	253.1
3629	4	119.3	3662	4	186.2	3696	4	255.2
			3663	4	188.3	3697	4	257.2
3630	4	121.3	3664	4	190.3	3698	4	259.2
3631	4	123.4	3665	4	192.3	3699	4	261.3
3632	4	125.4	3666	4	194.3			
3633	4	127.4	3667	4	196.4	3700	4	263.3

Use check point at 3600 or 3750 Kc, whichever is nearer

Frequency: 3800–3900 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
3800	4	467.4	3834	4	537.4	3868	4	607.4
3801	4	469.5	3835	4	539.4	3869	4	609.5
3802	4	471.5	3836	4	541.5			
3803	4	473.5	3837	4	543.6	3870	4	611.6
3804	4	475.6	3838	4	545.6	3871	4	613.6
3805	4	477.6	3839	4	547.7	3872	4	615.7
3806	4	479.7				3873	4	617.8
3807	4	481.7	3840	4	549.7	3874	4	619.8
3808	4	483.7	3841	4	551.8	3875	4	621.9
3809	4	485.8	3842	4	553.8	3876	4	623.9
			3843	4	555.9	3877	4	626.0
3810	4	487.8	3844	4	557.9	3878	4	628.1
3811	4	489.9	3845	4	560.0	3879	4	630.1
3812	4	492.0	3846	4	562.1			
3813	4	494.0	3847	4	564.1	3880	4	632.2
3814	4	496.1	3848	4	566.2	3881	4	634.3
3815	4	498.2	3849	4	568.2	3882	4	636.3
3816	4	500.2				3883	4	638.4
3817	4	502.3	3850	4	570.3	3884	4	640.4
3818	4	504.4	3851	4	572.3	3885	4	642.5
3819	4	506.5	3852	4	574.4	3886	4	644.6
			3853	4	576.5	3887	4	646.6
3820	4	508.5	3854	4	578.5	3888	4	648.7
3821	4	510.6	3855	4	580.6	3889	4	650.7
3822	4	512.7	3856	4	582.6			
3823	4	514.8	3857	4	584.7	3890	4	652.8
3824	4	516.8	3858	4	586.8	3891	4	654.9
3825	4	518.9	3859	4	588.8	3892	4	656.9
3826	4	521.0				3893	4	659.0
3827	4	523.0	3860	4	590.9	3894	4	661.1
3828	4	525.1	3861	4	593.0	3895	4	663.1
3829	4	527.1	3862	4	595.0	3896	4	665.2
			3863	4	597.1	3897	4	567.2
3830	4	529.2	3864	4	599.2	3898	4	669.3
3831	4	531.2	3865	4	601.2	3899	4	671.4
3832	4	533.3	3866	4	603.3			
3833	4	535.3	3867	4	605.4	**3900**	**4**	**673.4**

Use check point at 3750 or 3900 Kc, whichever is nearer

Frequency: 3700–3800 Kc

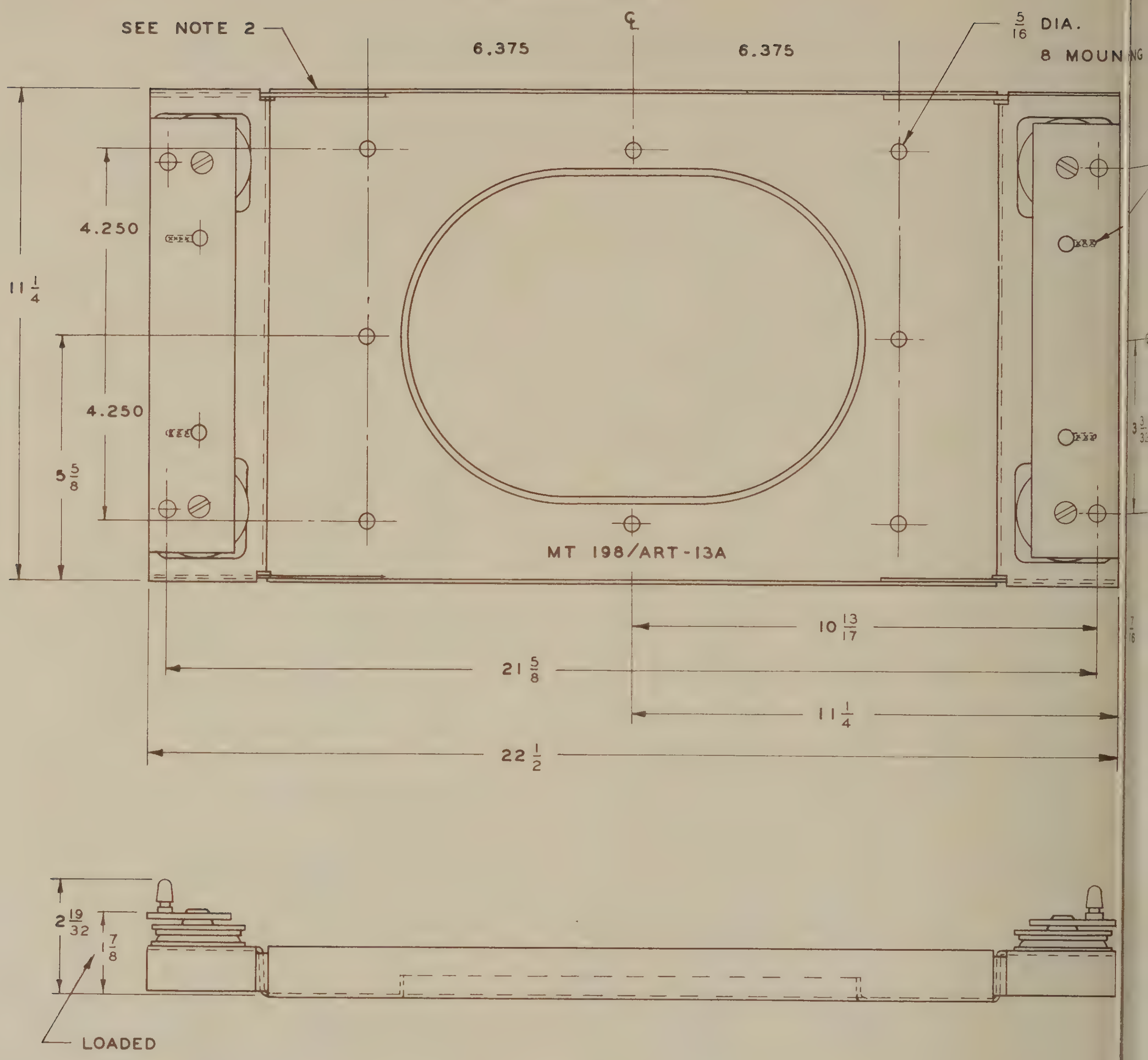
Freq.	A	B	Freq.	A	B	Freq.	A	B
3700	4	263.3	3734	4	332.4	3768	4	401.8
3701	4	265.4	3735	4	334.5	3769	4	403.8
3702	4	267.4	3736	4	336.5			
3703	4	269.4	3737	4	338.6	3770	4	405.9
3704	4	271.5	3738	4	340.6	3771	4	407.9
3705	4	273.5	3739	4	342.7	3772	4	410.0
3706	4	275.5				3773	4	412.0
3707	4	277.6	3740	4	344.7	3774	4	414.1
3708	4	279.6	3741	4	346.8	3775	4	416.1
3709	4	281.6	3742	4	348.8	3776	4	418.2
			3743	4	350.8	3777	4	420.2
3710	4	283.6	3744	4	352.9	3778	4	422.3
3711	4	285.7	3745	4	354.9	3779	4	424.3
3712	4	287.7	3746	4	357.0			
3713	4	289.7	3747	4	359.0	3780	4	426.4
3714	4	291.7	3748	4	361.1	3781	4	428.4
3715	4	293.8	3749	4	363.1	3782	4	430.5
3716	4	295.8				3783	4	432.6
3717	4	297.8	**3750**	**4**	**365.2**	3784	4	434.6
3718	4	299.8	3751	4	367.2	3785	4	436.7
3719	4	301.9	3752	4	369.2	3786	4	438.7
			3753	4	371.2	3787	4	440.8
3720	4	303.9	3754	4	373.3	3788	4	442.8
3721	4	305.9	3755	4	375.3	3789	4	444.9
3722	4	308.0	3756	4	377.3			
3723	4	310.0	3757	4	379.4	3790	4	447.0
3724	4	312.1	3758	4	381.4	3791	4	449.0
3725	4	314.1	3759	4	383.4	3792	4	451.1
3726	4	316.1				3793	4	453.1
3727	4	318.2	3760	4	385.5	3794	4	455.2
3728	4	320.2	3761	4	387.5	3795	4	457.2
3729	4	322.2	3762	4	389.5	3796	4	459.3
			3763	4	391.6	3797	4	461.3
3730	4	324.3	3764	4	393.6	3798	4	463.4
3731	4	326.3	3765	4	395.6	3799	4	465.4
3732	4	328.4	3766	4	397.7			
3733	4	330.4	3767	4	399.7	3800	4	467.4

Use check point at 3750 Kc

Frequency: 3900–4000 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
3900	**4**	**673.4**	3934	4	743.4	3968	4	813.4
3901	4	675.5	3935	4	745.5	3969	4	815.5
3902	4	677.5	3936	4	747.5			
3903	4	679.6	3937	4	749.6	3970	4	817.6
3904	4	681.6	3938	4	751.6	3971	4	819.7
3905	4	683.7	3939	4	753.7	3972	4	821.7
3906	4	685.8				3973	4	823.8
3907	4	687.8	3940	4	755.7	3974	4	825.9
3908	4	689.9	3941	4	757,8	3975	4	828.0
3909	4	691.9	3942	4	759.8	3976	4	830.0
			3943	4	761.9	3977	4	832.1
3910	4	694.0	3944	4	763.9	3978	4	834.1
3911	4	696.0	3945	4	766.0	3979	4	836.2
3912	4	698.1	3946	4	768.0			
3913	4	700.1	3947	4	770.1	3980	4	838.2
3914	4	702.2	3948	4	772.1	3981	4	840.3
3915	4	704.2	3949	4	774.2	3982	4	842.3
3916	4	706.3				3983	4	844.4
3917	4	708.4	3950	4	776.3	3984	4	846.4
3918	4	710.4	3951	4	778.3	3985	4	848.5
3919	4	712.5	3952	4	780.4	3986	4	850.5
			3953	4	782.4	3987	4	852.6
3920	4	714.6	3954	4	784.5	3988	4	854.7
3921	4	716.6	3955	4	786.6	3989	4	856.7
3922	4	718.7	3956	4	788.6			
3923	4	720.8	3957	4	790.7	3990	4	858.8
3924	4	722.9	3958	4	792.7	3991	4	860.8
3925	4	724.9	3959	4	794.8	3992	4	862.8
3926	4	727.0				3993	4	864.8
3927	4	729.1	3960	4	796.9	3994	4	866.9
3928	4	731.1	3961	4	798.9	3995	4	868.9
3929	4	733.2	3962	4	801.0	3996	4	870.9
			3963	4	803.1	3997	4	872.9
3930	4	735.3	3964	4	805.2	3998	4	875.0
3931	4	737.3	3965	4	807.2	3999	4	877.0
3932	4	739.4	3966	4	809.3			
3933	4	741.4	3967	4	811.4	4000	4	879.0

Use check point at 3900 Kc

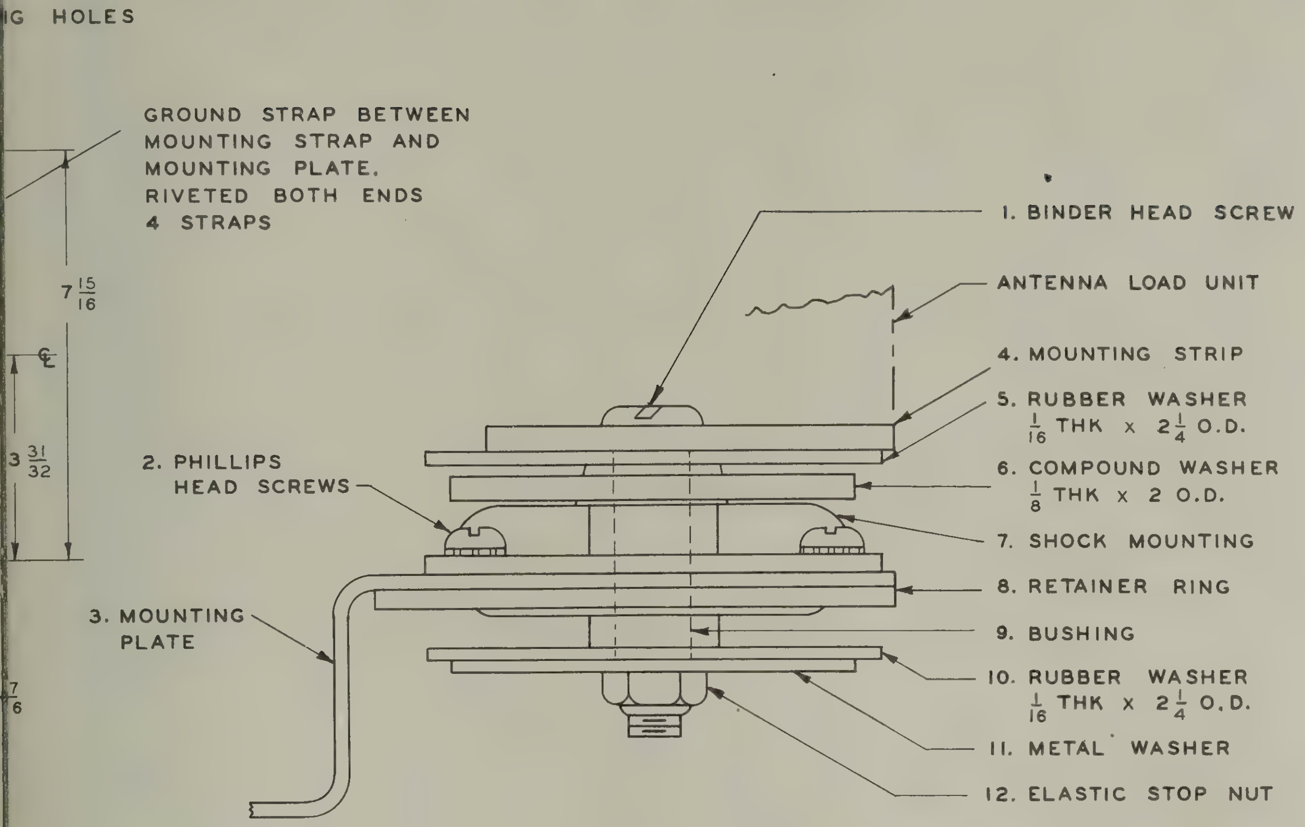

SEE NOTE 2
℄
6.375
6.375
5/16 DIA.
8 MOUNTING
4.250
4.250
11 1/4
5 5/8
MT 198/ART-13A
10 13/17
21 5/8
11 1/4
22 1/2
2 19/32
1 7/8
LOADED

MOUNTING SHOWN IN LOADED POSITION
BOTTOM MOUNTING
(SEE NOTE 1)

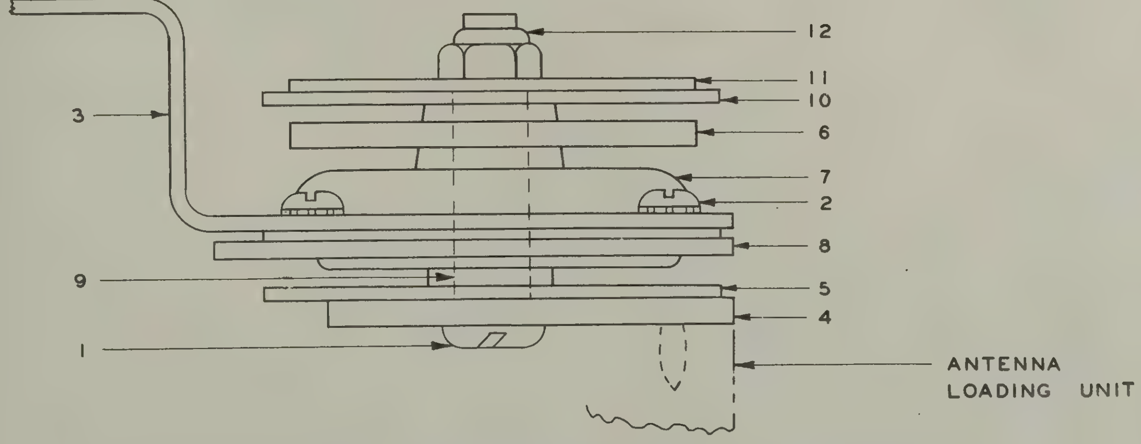
NOTES:

1. MOUNTING PLATE WILL BE SUPPLIED ASSEMBLIED FOR BOTTOM MOUNTING. FOR OVERHEAD MOUNTING, SHOCK MOUNTS MUST BE ASSEMBLED ACCORDING TO ENLARGED SKETCH.
2. MOUNTING PLATE MUST ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE.

WEIGHT 3.2 LBS.

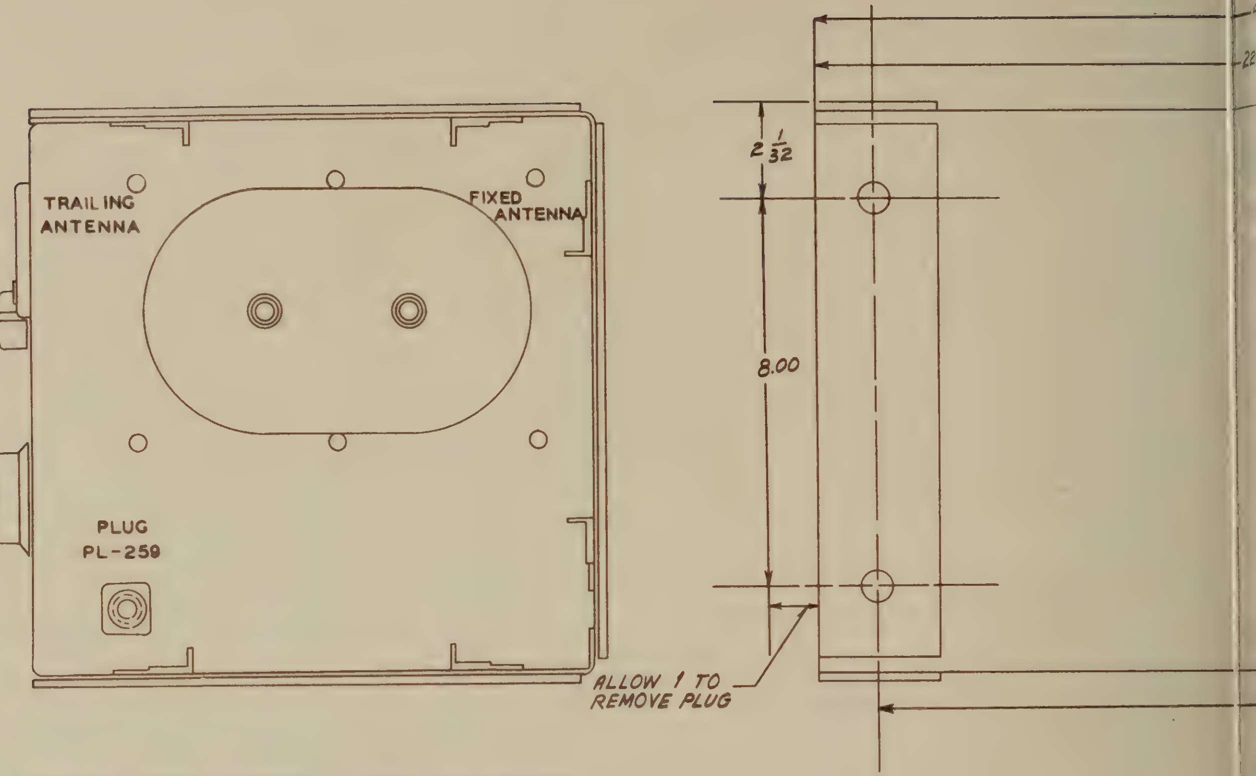

IG HOLES
GROUND STRAP BETWEEN MOUNTING STRAP AND MOUNTING PLATE. RIVETED BOTH ENDS 4 STRAPS
7 15/16
℄
3 31/32
7/6
1. BINDER HEAD SCREW
ANTENNA LOAD UNIT
4. MOUNTING STRIP
5. RUBBER WASHER 1/16 THK x 2 1/4 O.D.
2. PHILLIPS HEAD SCREWS
6. COMPOUND WASHER 1/8 THK x 2 O.D.
7. SHOCK MOUNTING
8. RETAINER RING
3. MOUNTING PLATE
9. BUSHING
10. RUBBER WASHER 1/16 THK x 2 1/4 O.D.
11. METAL WASHER
12. ELASTIC STOP NUT

ENLARGED VIEW SHOWING BUILDING UP OF PARTS
FOR BOTTOM MOUNTING
SCALE (APPROX.) 2:1


12
11
10
3
6
7
2
8
9
5
4
1
ANTENNA LOADING UNIT

ENLARGED VIEW SHOWING BUILDING UP OF PARTS
FOR OVERHEAD MOUNTING
NOTE NUMBERS REFER TO VIEW ABOVE

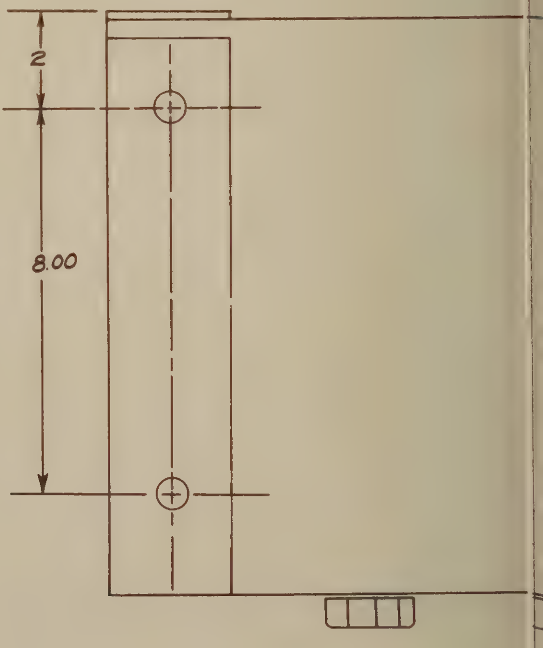
Figure 5-6—Mounting Base MT-198/ART-13A—Outline Dimensions (for Antenna Loading Unit CU-32/ART-13A)


TRAILING ANTENNA
FIXED ANTENNA
PLUG PL-259
2 1/32
8.00
ALLOW 1 TO REMOVE PLUG

3. LEADS TO FIXED ANTENNA, TRAILING ANTENNA AND H.F. INPUT MUST HAVE AT LEAST 1½" CLEARANCE FROM ALL OTHER METALIC OBJECTS. LEAD TO L.F. INPUT MUST HAVE AT LEAST ¾" CLEARANCE.

2. ADD 1½" TO OVER-ALL HEIGHT WHEN ANTENNA LOADING UNIT IS ATTACHED TO SHOCK MOUNT.

1. GOVERNMENT FURNISHED SHOCK MOUNTING MUST BE INSTALLED IN A HORIZONTAL PLANE. HOWEVER IT MAY BE INVERTED WITH THE ANTENNA LOADING UNIT SUSPENDED FROM IT. ANTENNA LOADING UNIT MAY BE ATTACHED TO MOUNTING ON ANY ONE OF ITS THREE SIDES AND IS DESIGNED FOR OPERATION IN ANY POSITION.



WEIGHT

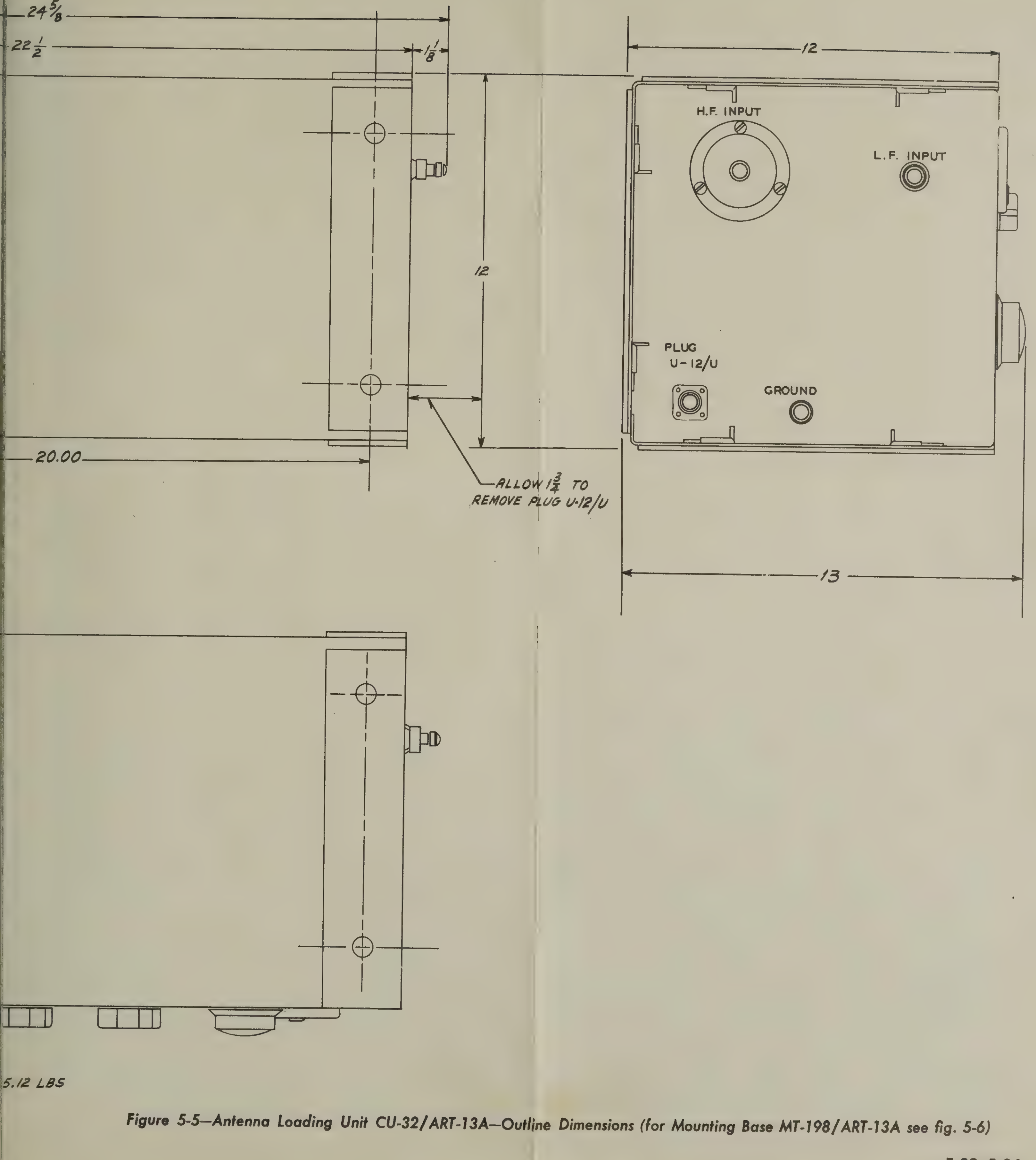
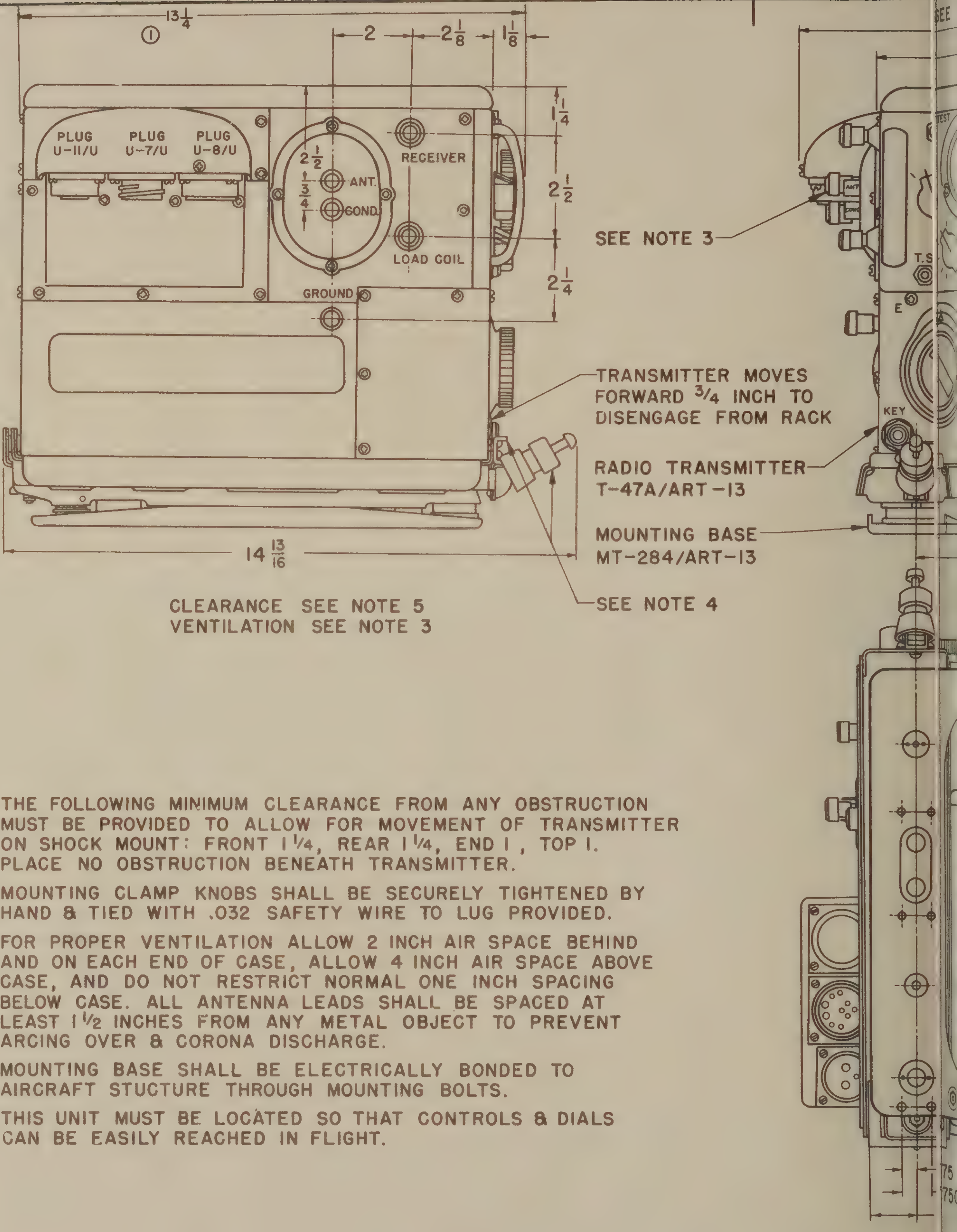

24 5/8
22 1/2
1/8
12
12
H.F. INPUT
L.F. INPUT
PLUG
U-12/U
GROUND
20.00
ALLOW 1 3/4 TO
REMOVE PLUG U-12/U
13
5.12 LBS

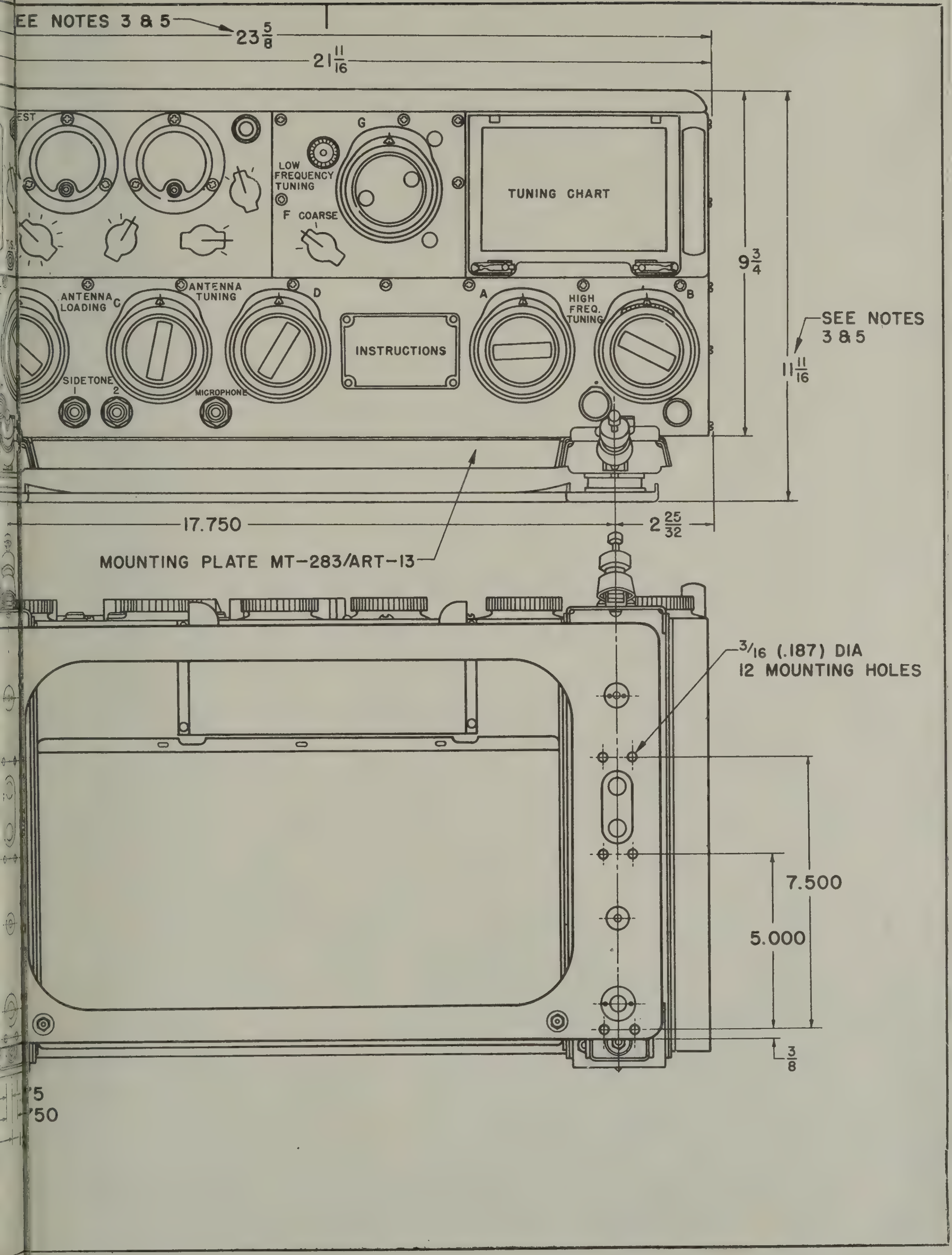
Figure 5-5—Antenna Loading Unit CU-32/ART-13A—Outline Dimensions (for Mounting Base MT-198/ART-13A see fig. 5-6)

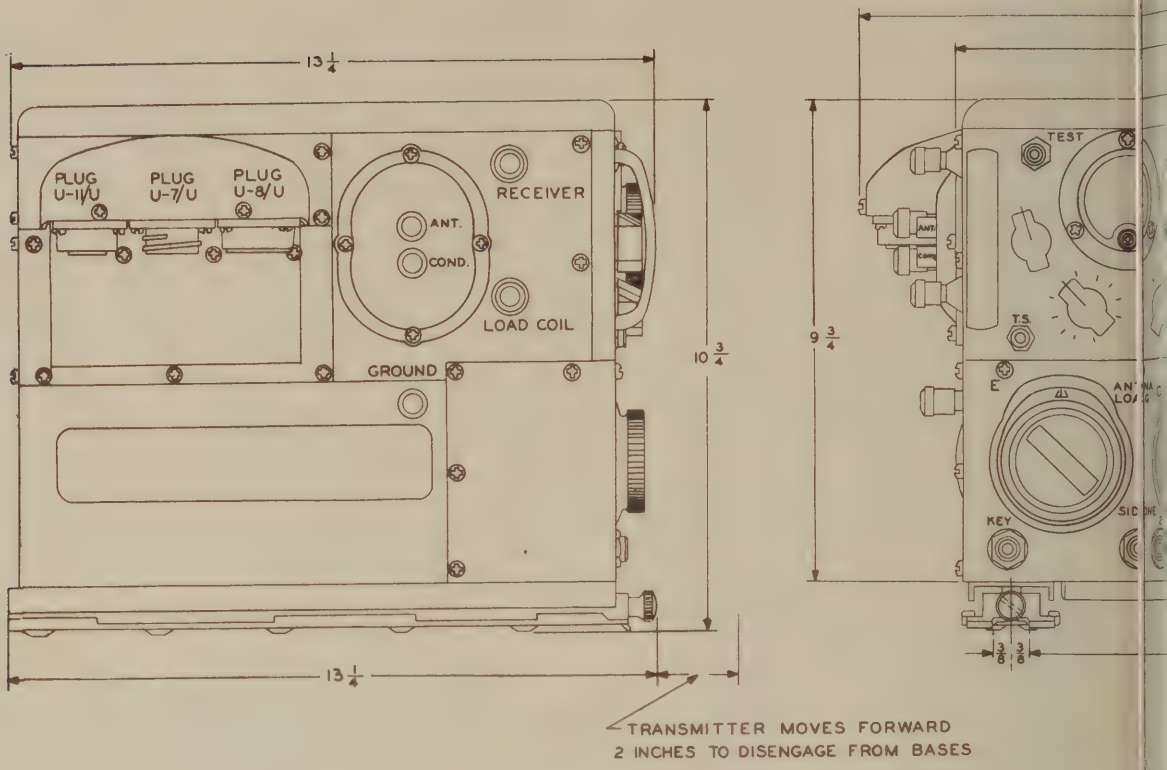

①
13 1/4
2
2 1/8
1 1/8
1 1/4
2 1/2
2 1/4
2 1/2
3/4
PLUG U-11/U
PLUG U-7/U
PLUG U-8/U
RECEIVER
ANT.
COND.
LOAD COIL
GROUND
14 13/16
SEE NOTE 3
TRANSMITTER MOVES FORWARD 3/4 INCH TO DISENGAGE FROM RACK
RADIO TRANSMITTER T-47A/ART-13
MOUNTING BASE MT-284/ART-13
SEE NOTE 4
TEST
ANT
COND
T.S
E
KEY

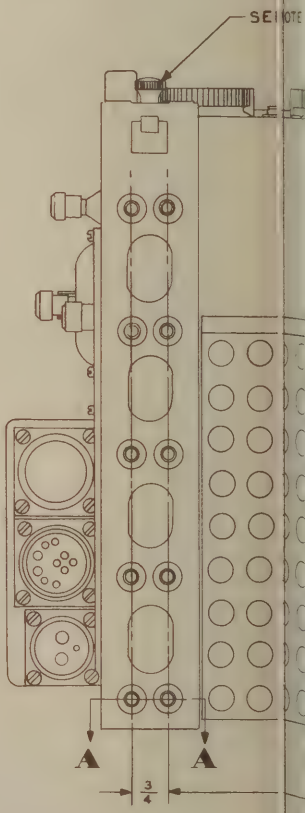
CLEARANCE SEE NOTE 5
VENTILATION SEE NOTE 3

5. THE FOLLOWING MINIMUM CLEARANCE FROM ANY OBSTRUCTION MUST BE PROVIDED TO ALLOW FOR MOVEMENT OF TRANSMITTER ON SHOCK MOUNT: FRONT 1 1/4, REAR 1 1/4, END 1, TOP 1. PLACE NO OBSTRUCTION BENEATH TRANSMITTER.
4. MOUNTING CLAMP KNOBS SHALL BE SECURELY TIGHTENED BY HAND & TIED WITH .032 SAFETY WIRE TO LUG PROVIDED.
3. FOR PROPER VENTILATION ALLOW 2 INCH AIR SPACE BEHIND AND ON EACH END OF CASE, ALLOW 4 INCH AIR SPACE ABOVE CASE, AND DO NOT RESTRICT NORMAL ONE INCH SPACING BELOW CASE. ALL ANTENNA LEADS SHALL BE SPACED AT LEAST 1 1/2 INCHES FROM ANY METAL OBJECT TO PREVENT ARCING OVER & CORONA DISCHARGE.
2. MOUNTING BASE SHALL BE ELECTRICALLY BONDED TO AIRCRAFT STUCTURE THROUGH MOUNTING BOLTS.
1. THIS UNIT MUST BE LOCATED SO THAT CONTROLS & DIALS CAN BE EASILY REACHED IN FLIGHT.

Figure 5-1—Radio Transmitter T-47A/ART-13—Outline Dimensions


EE NOTES 3 & 5
23 5/8
21 11/16
EST
LOW FREQUENCY TUNING
F COARSE
G
TUNING CHART
9 3/4
SEE NOTES 3 & 5
11 11/16
ANTENNA LOADING
C
ANTENNA TUNING
D
INSTRUCTIONS
A
HIGH FREQ. TUNING
B
SIDETONE 1 2
MICROPHONE
17.750
2 25/32
MOUNTING PLATE MT-283/ART-13
3/16 (.187) DIA 12 MOUNTING HOLES
7.500
5.000
3/8
'5
'50


13 1/4
PLUG U-11/U
PLUG U-7/U
PLUG U-8/U
RECEIVER
ANT.
COND.
LOAD COIL
GROUND
10 3/4
13 1/4
TRANSMITTER MOVES FORWARD 2 INCHES TO DISENGAGE FROM BASES
TEST
T.S.
E
9 3/4
KEY
3/8
3/8



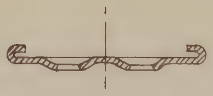
1-THIS UNIT MUST BE LOCATED SO THAT CONTROLS AND DIALS CAN BE EASILY REACHED AND READ IN FLIGHT.

2-TRACKS SHALL BE ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE THROUGH MOUNTING FEET AND BOLTS.

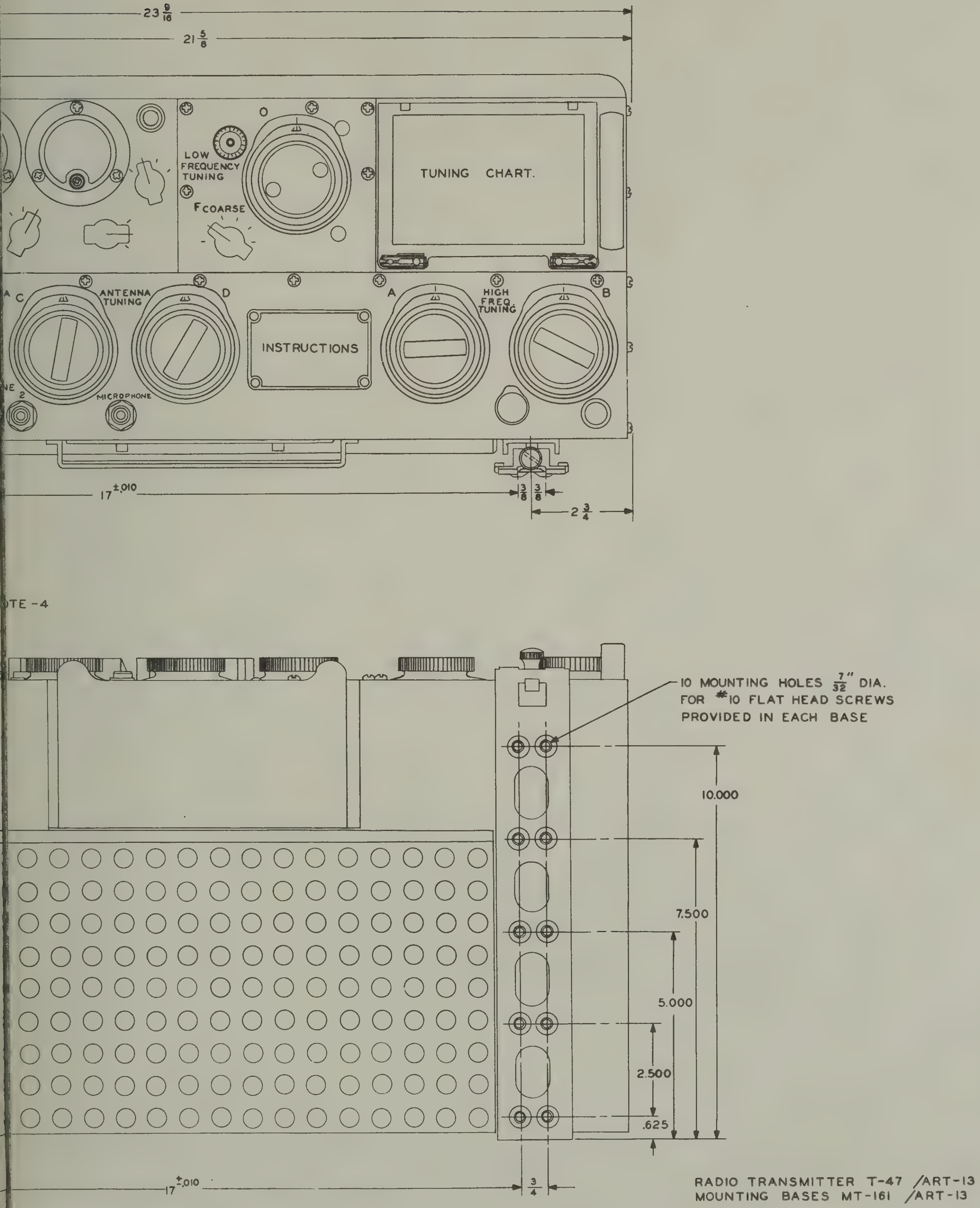
3-FOR PROPER VENTILATION, ALLOW 2 INCH AIR SPACE BEHIND AND ON EACH END OF CASE, ALLOW 5 INCH AIR SPACE ABOVE CASE, AND DO NOT RESTRICT NORMAL 1 INCH SPACING BELOW CASE.

4-MOUNTING CLAMP KNOBS SHALL BE SECURELY TIGHTENED BY HAND AND TIED TO BASE WITH .032 DIAMETER SAFETY WIRE.

WEIGHT 70 LBS. MAX.



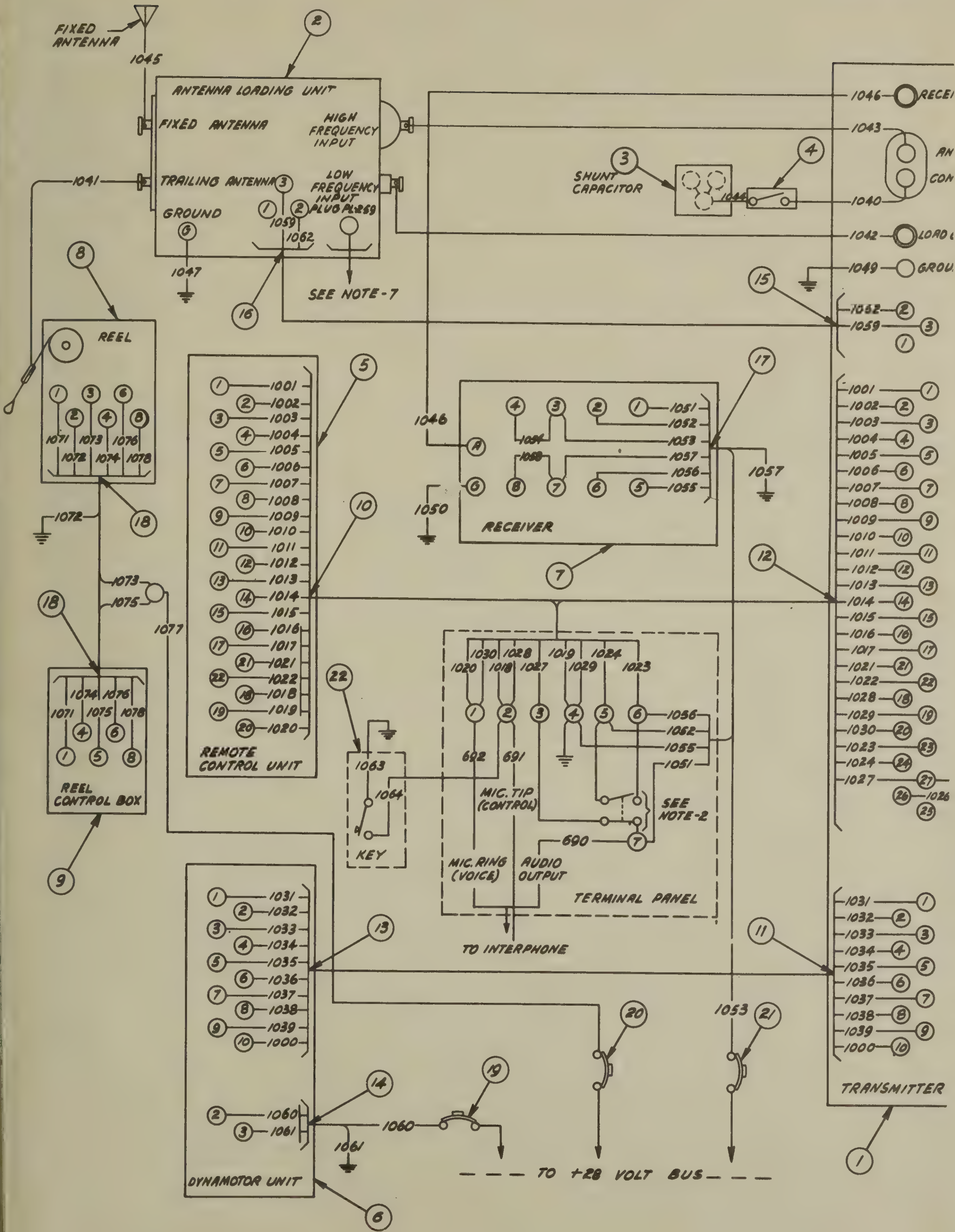
ENLARGED SECTION A-A


23 9/16
21 5/8
LOW FREQUENCY TUNING
O
F COARSE
TUNING CHART.
A
C
ANTENNA TUNING
D
INSTRUCTIONS
A
HIGH FREQ. TUNING
B
NE 2
MICROPHONE
17 ±.010
3/8
3/8
2 3/4
TE -4
10.000
7.500
5.000
2.500
.625
17 ±.010
3/4

10 MOUNTING HOLES 7/32" DIA.
FOR #10 FLAT HEAD SCREWS
PROVIDED IN EACH BASE

RADIO TRANSMITTER T-47 /ART-13
MOUNTING BASES MT-161 /ART-13

Figure 5-2—Radio Transmitter T-47/ART-13 (Navy Type 52286)—Outline Dimensions


FIXED ANTENNA
ANTENNA LOADING UNIT
FIXED ANTENNA
HIGH FREQUENCY INPUT
TRAILING ANTENNA
LOW FREQUENCY INPUT
PLUG PL-259
GROUND
SEE NOTE-7
SHUNT CAPACITOR
RECEI
AN
CON
LOAD
GROU
REEL
REEL CONTROL BOX
REMOTE CONTROL UNIT
RECEIVER
TERMINAL PANEL
MIC. TIP (CONTROL)
MIC. RING (VOICE)
AUDIO OUTPUT
SEE NOTE-2
TO INTERPHONE
KEY
DYNAMOTOR UNIT
TO +28 VOLT BUS
TRANSMITTER

WIRE TABLE

All wires to be Aircraft Cable per Spec. AN-J-C-48 unless otherwise specified.
+Indicates wires to be individually shielded per Spec. 95-27273.
⊗Indicates wires whose voltage drop must not exceed limits of Spec. 95-32310.

Ref. Note	Wire No.	Maximum Operating Voltage	Maximum Allowable Resistance in Ohms (71° C.)	Minimum Cable Size Permitted	Ref. Note	Wire No.	Maximum Operating Voltage	Maximum Allowable Resistance in Ohms (71° C.)	Minimum Cable Size Permitted
6	1000	1150	1	16	4	1041	5000		10
	1001	30	1	20	4	1042	3750		10
	1002	30	1	20	4	1043	5000		10
	1003	30	1	20	4	1044	5000		10
	1004	30	1	20	4	1045	7500		10
	1005	30	1	20	4	1046	7500		10
	1006	30	1	20	5	1047	0	.001	14
	1007	30	1	20	5	1048	0	.001	14
	1008	30	1	20	5	1049	0	.001	14
	1009	30	1	20	5	1050	0	.001	14
	1010	30	1	20		1051	100	1	20
	1011	30	1	20		1052	220	1	20
	1012	30	1	20		1053	30	.02	16
	1013	30	1	20		1054	30	Jumper	16
	1014	30	1	20		1055	0	0.25	18
	1015	30	0.8	20		1056	220	1	20
	1016	30	1	20	5	1057	0	.001	16
	1017	30	1	20		1058	0	Jumper	16
	1018	30	0.25	20		1059	30	0.25	18
	1019	0	0.25	18		1060	30	.0125	10
	1020	30	0.25	20	5	1061	0	.001	10
	1021	30	1	20		1062	30	0.25	18
	1022	30	0.8	20		1063	0	0.25	18
	1023	220	1	20		1064	30	0.25	18
	1024	220	1	20		1065	60		14
						1071	30	0.1	18
	1026	100	1	20	5	1072	0	0.1	16
	1027	100	1	20		1073	30	0.1	18
	1028	30	0.25	20		1074	30	0.1	18
	1029	0	0.25	18		1075	30	.3	20
	1030	30	0.25	20		1076	30	0.1	18
	1031	400	1	20		1077	30	0.1	18
	1032	400	1	20		1078	30	0.1	18
	1033	30	0.8	20		688	100	1	20
	1034	30	0.05	18		689	0	0.25	18
	1035	0	0.025	14		690	100	1	20+
	1036	30	0.05	14		691	30	0.25	20
	1037	30	1	20		692	30	0.25	20
	1038	30	0.8	20		693	220	1	20
	1039	400	1	20		694	220	1	20
4	1040	5000	Less than 12"	10		695	100	1	20

NOTES:

1 All Terminal Strips required in the installation of the wiring shall be made of suitable insulating material and with terminal spacing to prevent voltage breakdown.

2 "Monitor-Normal" Switch, locate within easy reach of radio operator.

3 If remote control is not required, delete items ② and ⑦, and wires 1001 to 1022 inclusive.

4 To prevent corona discharge at high altitudes, Antenna Leads 1040 to 1046 inclusive shall be solid copper wire covered with insulating Beads IN-83. They shall be routed to prevent sharp bends and spaced at least 1½ inches from all metallic objects.

5 Ground connections shall be made to the frame of the aircraft. All leads shall be kept as short as possible with only enough slack to allow free movement of unit on its shock mount, remove all paint at point of contact.

6 Wire #1000 to be "Type ACA 3000 Volt Radio Hookup Wire", as made by Rockbestos Products Corp., New Haven, Conn., or equal.

7 Antenna Socket for a Plug PL-259 from other radio equipment.

8 Items ⑰ and ⑲ required only when fixed wire antenna measures less than 55 feet from transmitter to farthest end. Do not include short end of "T" type antenna.

9 Either Dynamotor DY 11/ART-13 or Dynamotor DY 12/ART-13 may be supplied.

10 When low frequency components are not used delete items ⑬, ⑮, ⑭ and ⑭. Delete wires 1042, 1046, 1047, 1059, and 1062. Substitute item ⑱ (Fig. 1), connect as shown, Terminal "X" to antenna terminal on other radio equipment or directly to ground.

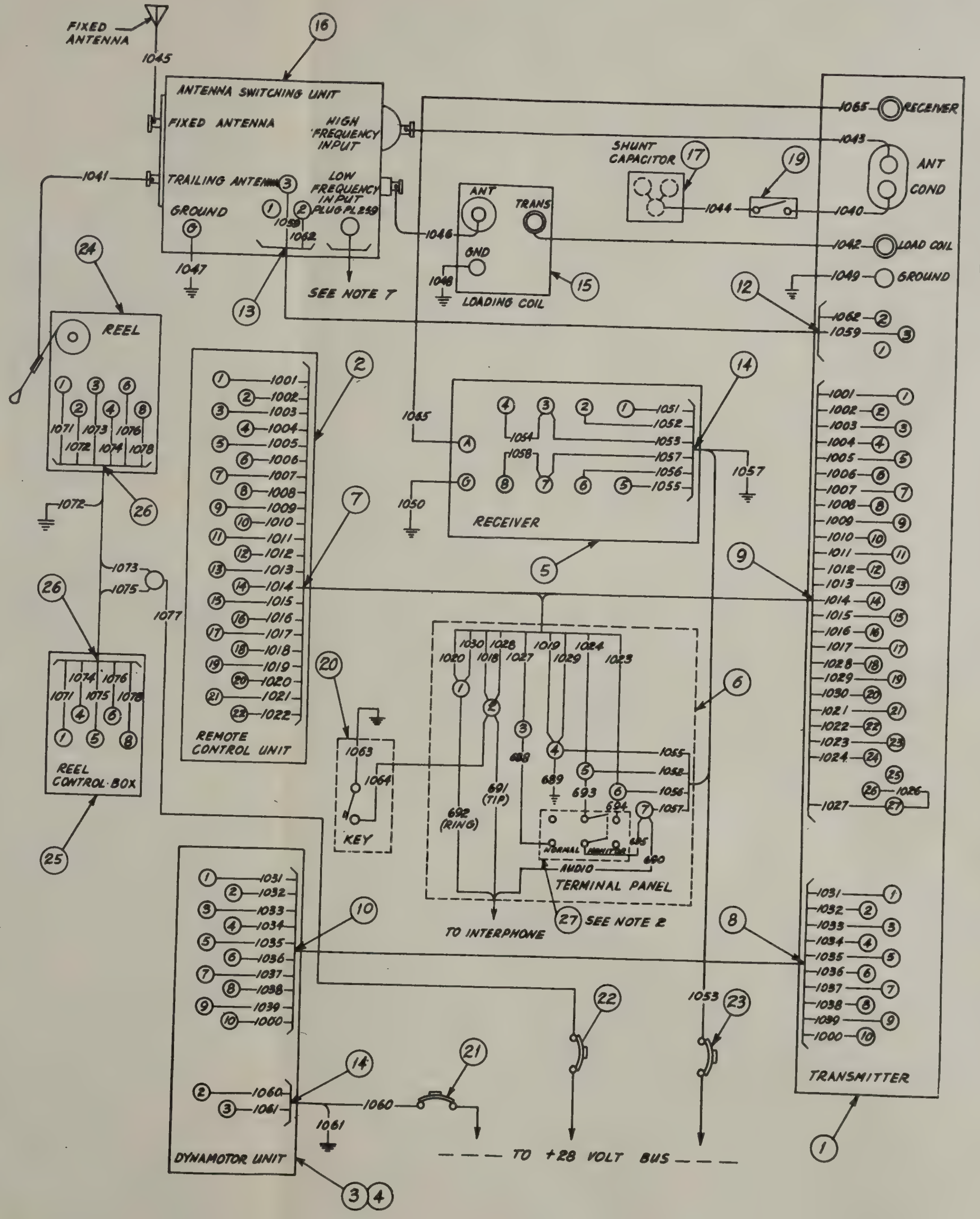
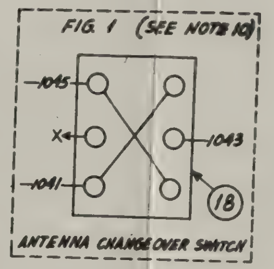

FIXED ANTENNA
1045
⑯
ANTENNA SWITCHING UNIT
FIXED ANTENNA
HIGH FREQUENCY INPUT
TRAILING ANTENNA
LOW FREQUENCY INPUT PLUG PL259
GROUND
1041
1047
1059
1062
⑬
SEE NOTE 7
ANT
TRANS
GND
1046
1048
LOADING COIL
⑮
SHUNT CAPACITOR
⑰
⑲
1044
⑫
1065 RECEIVER
1043
ANT COND
1040
1042 LOAD COIL
1049 GROUND
1062
1059
㉔
REEL
1071 1072 1073 1074 1076 1078
1072
㉖
1073
1075
1077
REEL CONTROL BOX
㉕
②
1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022
REMOTE CONTROL UNIT
⑦
⑭
1065
1050
1051 1052 1053 1054 1057 1056 1055 1058
1057
RECEIVER
⑤
⑨
⑳
1063
1064
KEY
1030 1028 1020 1018 1027 1019 1029 1024 1023
688 689 692 (RING) 691 (TIP) 693
694 695 690
NORMAL MONITOR
AUDIO
TERMINAL PANEL
⑥
TO INTERPHONE
㉗ SEE NOTE 2
⑧
1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1028 1029 1030 1021 1022 1023 1024
1027
㉖ 1026
1031 1032 1033 1034 1035 1036 1037 1038 1039 1000
⑩
1060
1061
⑭
㉑
㉒
1053
㉓
TO +28 VOLT BUS
DYNAMOTOR UNIT
③④
TRANSMITTER
①

FIG. 1 (SEE NOTE 10)


1045
X
1041
1043
⑱
ANTENNA CHANGEOVER SWITCH

COMPONENT TABLE

*Indicates Government Furnished Equipment.

Item	Quan. Req'd.	Equipment Nomenclature			Spec. or Installation Drawing
		Description	Designation or Type No.	Manufacturer's Part Number	
* 1	1	Radio Transmitter	T47/ART-13	52286	H44G3442
* 2	1	Control Unit (Remote)	C 87/ART-13	23330	H44D3445
* 3	1	Dynamotor Unit (See Note 9)	DY 11/ART-13	21931 & 23333	H44D3444
		Dynamotor Unit (See Note 9)	DY 12/ART-13	21932 & 23333	H44D3444
* 4	1	Mounting Plate	MT 164/ART-13	23333	H44D3444
* 5	1	Receiver	BC-348 ( )		H40D3166
6	1	Terminal Panel			
* 7	1	Plug	U-6/U	NK-27-21C 11/16	H44D3981
* 8	1	Plug	U-7/U	FK-10-21C 9/16	H44D3981
* 9	1	Plug	U-8/U	RNK-27-22C 11/16	H44D3981
*10	1	Plug	U-9/U	RFK-10-24C 9/16	H44D3981
*11	1	Plug	U-10/U	GK-C3-23C ½	H44D3981
*12	1	Plug	U-11/U	RWK-C3-23C ½	H44D3981
*13	1	Plug	U-12/U	WK-C3-23C 7/16	H44D3981
*14	1	Plug	PL-( )-103		H40D3166
*15	1	Antenna Loading Coil	CU-25/ART-13	47281	H44D3443
*16	1	Antenna Switching Unit	SA-22/ART-13		H44D3686
*17	1	Antenna Shunt Capacitor	CU-24/ART-13	481628	H44D3446
*18	1	Switch (See Note 10)	SA-13/U		H44D3942
*19	1	Switch	SA-46/ART-13		H45D2584
*20	1	Key	J-37		H39B3362
21	1	Circuit Breaker	AN3161-P50		AN-C-77
22	1	Circuit Breaker	AN3161-P10		AN-C-77
23	1	Circuit Breaker	AN3161-P5		AN-C-77
*24	1	Reel	RL-42-B		H42G4623
*25	1	Reel Control Box	BC-461		H42G4623
*26	2	Plug	PL-112		H42G4623
*27	1	Switch (See Note 2)	AN3023-3		AN-5-20

Manufacturer shall indicate to which points on Electrical Wiring Diagram these connections are made.

POWER REQUIRED AT 28 VOLTS INPUT

Receiver	Maximum	2 Amps.
Transmitter	Stand By On Voice	11 Amps.
	Maximum	37 Amps.
Reel	Maximum	4.5 Amps.

Figure 5-16—Radio Transmitting Set AN/ART-13—Typical Wiring Diagram

WIRE TABLE

All wires to be Aircraft Cable per Spec. AN-J-C-48 unless otherwise specified.
+Indicates wires to be individually shielded per Spec. 95-27273.
⊕Indicates wires whose voltage drop must not exceed limits of Spec. 95-32310.

Ref. Note	Wire No.	Maximum Operating Voltage	Maximum Allowable Resistance in Ohms (71° C.)	Minimum Cable Size Permitted	Ref. Note	Wire, No.	Maximum Operating Voltage	Maximum Allowable Resistance in Ohms (71° C.)	Minimum Cable Size Permitted
6	1000	1150	1	16	4	1041	5000		10
	1001	30	1	20	4	1042	3750		10
	1002	30	1	20	4	1043	5000		10
	1003	30	1	20	4	1044	5000		10
	1004	30	1	20	4	1045	7500		10
	1005	30	1	20		1046	60		14
	1006	30	1	20	5	1047	0	.001	14
	1007	30	1	20					
	1008	30	1	20	5	1049	0	.001	14
	1009	30	1	20	5	1050	0	.001	14
	1010	30	1	20		1051	100	1	20
	1011	30	1	20		1052	220	1	20
	1012	30	1	20		1053	30	.02	16
	1013	30	1	20		1054	30	Jumper	16
	1014	30	1	20		1055	0		18
	1015	30	0.8	20		1056	220	1	20
	1016	30	1	20	5	1057	0	.001	16
	1017	30	1	20		1058	0	Jumper	16
	1018	30	0.25	20		1059	30	0.25	18
	1019	0	0.25	18		1060	30	.0125	8
	1020	30	0.25	20	5	1061	0	.001	8
	1021	30	1	20		1062	30	0.25	18
	1022	30	0.8	20		1063	0	0.25	18
	1023	220	1	20		1064	30	0.25	18
	1024	220	1	20					
						1071	30	0.1	18
	1026	100	1	20	5	1072	0	0.1	16
	1027	100	1	20		1073	30	0.1	18
	1028	30	0.25	20		1074	30	0.1	18
	1029	0	0.25	18		1075	30	.3	20
	1030	30	0.25	20		1076	30	0.1	18
	1031	400	1	20		1077	30	0.1	18
	1032	400	1	20		1078	30	0.1	18
	1033	30	0.8	20					
	1034	30	0.05	18					
	1035	0	0.025	14		690	100	1	20+
	1036	30	0.05	14		691	30	0.25	20
	1037	30	1	20		692	30	0.25	20
	1038	30	0.8	20					
	1039	400	1	20					
4	1040	5000	Less than 12"	10					

NOTES:

1 All Terminal Strips required in the installation of the wiring shall be made of suitable insulating material and with terminal spacing to prevent voltage breakdown.
2 Use two switches, Monitor Switch AM-3022-2, ganged by means of Connector Blocks 37A2070, or one Switch AN-3023-3. Wire switch as in diagram, for normal or up position. Locate switch within easy reach of radio operator, preferably in Connector Panel.
3 If remote control is not required, delete items ⑤ and ⑩, and wires 1001 to 1022 inclusive.
4 To prevent corona discharge at high altitudes, Antenna Leads 1040 to 1045 inclusive, shall be solid copper wire covered with insulating Beads IN-83. They shall be routed to prevent sharp bends and spaced at least 1½ inches from all metallic objects.
5 Ground connections shall be made to the frame of the aircraft. All leads shall be kept as short as possible with only enough slack to allow free movement of unit on its shock mount. Remove all paint at point of contact.
6 Wire #1000 to be "Type ACA 3000 Volt Radio Hookup Wire," as made by Rockbestos Products Corp., New Haven, Conn., or equal.
7 Antenna Socket for a Plug PL-259 from other radio equipment.
8 Items 3 and 4 required only when fixed wire antenna measures less than 55 feet from transmitter to farthest end. Do not include short end of "T" typo antenna.
9 When low frequency components are not installed delete items ③, ⑮ and ⑯. Substitute item ㉘ (Fig. 1) delete wire 1042, connect terminal "X", Fig. 1, to antenna terminal of other radio equipment or connect direct to ground.

All wires to be Aircraft

+Indicates wires to be

⊗Indicates wires whose

Ref. Note	Wire No.	Maximum Operating Voltage	Ma All Res in (7
6	1000	1150	1
	1001	30	1
	1002	30	1
	1003	30	1
	1004	30	1
	1005	30	1
	1006	30	1
	1007	30	1
	1008	30	1
	1009	30	1
	1010	30	1
	1011	30	1
	1012	30	1
	1013	30	1
	1014	30	1
	1015	30	0
	1016	30	1
	1017	30	1
	1018	30	0
	1019	0	0
	1020	30	0
	1021	30	1
	1022	30	0
	1023	220	1
	1024	220	1
	1026	100	1
	1027	100	1
	1028	30	0
	1029	0	0
	1030	30	0
	1031	400	1
	1032	400	1
	1033	30	0
	1034	30	0
	1035	0	0
	1036	30	0
	1037	30	1
	1038	30	0
	1039	400	1
4	1040	5000	Less

NOTES:

1 All Terminal Strips re
insulating material and

2 "Monitor-Normal" Swi

3 If remote control is not

4 To prevent corona dis
shall be solid copper w
prevent sharp bends a

5 Ground connections sh
short as possible with
mount, remove all pa

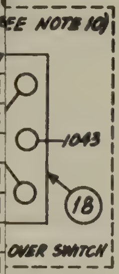
6 Wire #1000 to be "Ty
Products Corp., New

7 Antenna Socket for a

8 Items ⑰ and ⑱ requi
transmitter to farthest

9 Either Dynamotor DY

10 When low frequency
wires 1042, 1046, 104
Terminal "X" to anten



COMPONENT TABLE

s Government Furnished Equipment.

n. d.	Equipment Nomenclature			Spec. or Installation Drawing
	Description	Designation or Type No.	Manufacturer's Part Number	
	Radio Transmitter	T47/ART-13	52286	H44G3442
	Control Unit (Remote)	C 87/ART-13	23330	H44D3445
	Dynamotor Unit (See Note 9)	DY 11/ART-13	21931 & 23333	H44D3444
	Dynamotor Unit	DY 12/ART-13	21932 & 23333	H44D3444
	Mounting Plate	MT 164/ART-13	23333	H44D3444
	Receiver	BC-348 ( )		H40D3166
	Terminal Panel			
	Plug	U-6/U	NK-27-21C 11/16	H44D3981
	Plug	U-7/U	FK-10-21C 9/16	H44D3981
	Plug	U-8/U	RNK-27-22C 11/16	H44D3981
	Plug	U-9/U	RFK-10-24C 9/16	H44D3981
	Plug	U-10/U	GK-C3-23C 1/2	H44D3981
	Plug	U-11/U	RWK-C3-23C 1/2	H44D3981
	Plug	U-12/U	WK-C3-23C 7/16	H44D3981
	Plug	PL-( )-103		H40D3166
	Antenna Loading Coil	CU-25/ART-13	47281	H44D3443
	Antenna Switching Unit	SA-22/ART-13		H44D3686
	Antenna Shunt Capacitor	CU-24/ART-13	481628	H44D3446
	Switch (See Note 10)	SA-13/U		H44D3942
	Switch	SA-46/ART-13		H45D2584
	Key	J-37		H39B3362
	Circuit Breaker	AN3161-P50		AN-C-77
	Circuit Breaker	AN3161-P10		AN-C-77
	Circuit Breaker	AN3161-P5		AN-C-77
	Reel	RL-42-B		H42G4623
	Reel Control Box	BC-461		H42G4623
	Plug	PL-112		H42G4623
	Switch (See Note 2)	AN3023-3		AN-5-20

Manufacturer shall indicate to which points on Electrical Wiring Diagram these connections are made.

POWER REQUIRED AT 28 VOLTS INPUT

Receiver	Maximum	2 Amps.
Transmitter	Stand By On Voice	11 Amps.
	Maximum	37 Amps.
Reel	Maximum	4.5 Amps.

Figure 5-16—Radio Transmitting Set AN/ART-13—Typical Wiring Diagram

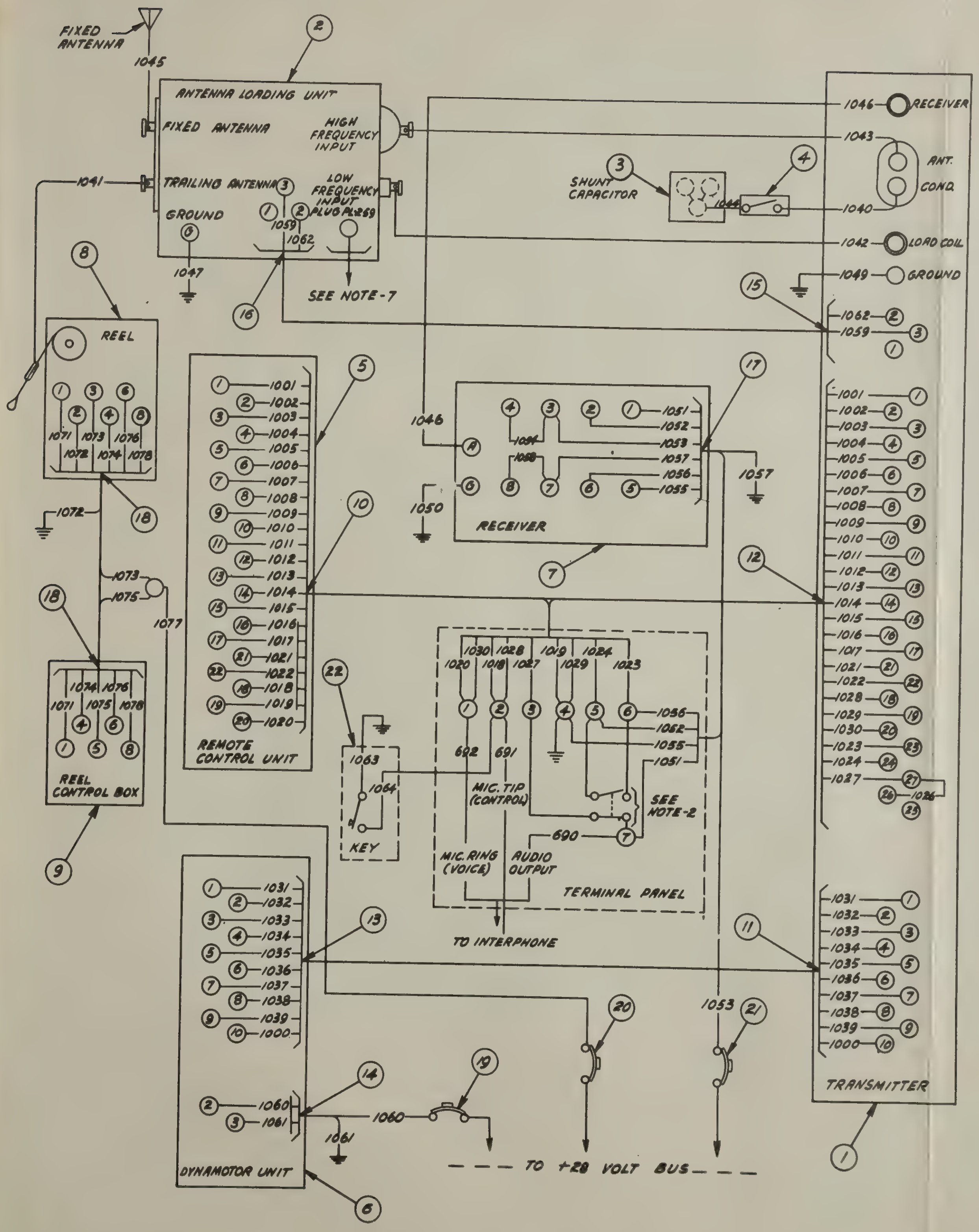
WIRE TABLE

All wires to be Aircraft Cable per Spec. AN-J-C-48 unless otherwise specified.
+ Indicates wires to be individually shielded per Spec. 95-27273.
● Indicates wires whose voltage drop must not exceed limits of Spec. 95-32310.

Ref. Note	Wire No.	Maximum Operating Voltage	Maximum Allowable Resistance in Ohms (71° C.)	Minimum Cable Size Permitted	Ref. Note	Wire, No.	Maximum Operating Voltage	Maximum Allowable Resistance in Ohms (71° C.)	Minimum Cable Size Permitted
6	1000	1150	1	16	4	1041	5000		10
	1001	30	1	20	4	1042	3750		10
	1002	30	1	20	4	1043	5000		10
	1003	30	1	20	4	1044	5000		10
	1004	30	1	20	4	1045	7500		10
	1005	30	1	20		1046	60		14
	1006	30	1	20	5	1047	0	.001	14
	1007	30	1	20					
	1008	30	1	20	5	1049	0	.001	14
	1009	30	1	20	5	1050	0	.001	14
	1010	30	1	20		1051	100	1	20
	1011	30	1	20		1052	220	1	20
	1012	30	1	20		1053	30	.02	16
	1013	30	1	20		1054	30	Jumper	16
	1014	30	1	20		1055	0		18
	1015	30	0.8	20		1056	220	1	20
	1016	30	1	20	5	1057	0	.001	16
	1017	30	1	20		1058	0	Jumper	16
	1018	30	0.25	20		1059	30	0.25	18
	1019	0	0.25	18		1060	30	.0125	8
	1020	30	0.25	20	5	1061	0	.001	8
	1021	30	1	20		1062	30	0.25	18
	1022	30	0.8	20		1063	0	0.25	18
	1023	220	1	20		1064	30	0.25	18
	1024	220	1	20					
						1071	30	0.1	18
	1026	100	1	20	5	1072	0	0.1	16
	1027	100	1	20		1073	30	0.1	18
	1028	30	0.25	20		1074	30	0.1	18
	1029	0	0.25	18		1075	30	.3	20
	1030	30	0.25	20		1076	30	0.1	18
	1031	400	1	20		1077	30	0.1	18
	1032	400	1	20		1078	30	0.1	18
	1033	30	0.8	20					
	1034	30	0.05	18					
	1035	0	0.025	14		690	100	1	20+
	1036	30	0.05	14		691	30	0.25	20
	1037	30	1	20		692	30	0.25	20
	1038	30	0.8	20					
	1039	400	1	20					
4	1040	5000	Less than 12"	10					

NOTES:

1 All Terminal Strips required in the installation of the wiring shall be made of suitable insulating material and with terminal spacing to prevent voltage breakdown.
2 Use two switches, Monitor Switch AM-3022-2, ganged by means of Connector Blocks 37A2070, or one Switch AN-3023-3. Wire switch as in diagram, for normal or up position. Locate switch within easy reach of radio operator, preferably in Connector Panel.
3 If remote control is not required, delete items ⑤ and ⑩, and wires 1001 to 1022 inclusive.
4 To prevent corona discharge at high altitudes, Antenna Leads 1040 to 1045 inclusive, shall be solid copper wire covered with insulating Beads IN-83. They shall be routed to prevent sharp bends and spaced at least 1½ inches from all metallic objects.
5 Ground connections shall be made to the frame of the aircraft. All leads shall be kept as short as possible with only enough slack to allow free movement of unit on its shock mount. Remove all paint at point of contact.
6 Wire #1000 to be "Type ACA 3000 Volt Radio Hookup Wire," as made by Rockbestos Products Corp., New Haven, Conn., or equal.
7 Antenna Socket for a Plug PL-259 from other radio equipment.
8 Items 3 and 4 required only when fixed wire antenna measures less than 55 feet from transmitter to farthest end. Do not include short end of "T" type antenna.
9 When low frequency components are not installed delete items ②, ⑮ and ⑯. Substitute item [illegible] (Fig. 1) delete wire 1042, connect terminal "X", Fig. 1, to antenna terminal of other radio equipment or connect direct to ground.


FIXED ANTENNA
1045
②
ANTENNA LOADING UNIT
FIXED ANTENNA
HIGH FREQUENCY INPUT
TRAILING ANTENNA ③
LOW FREQUENCY INPUT PLUG PL-259
GROUND
⓪
① ②
1059
1062
1047
SEE NOTE-7
1041
⑯
⑧
REEL
① ③ ⑥
② ④ ⑧
1071 1073 1076
1072 1074 1078
1072
⑱
1073
1075
1077
⑱
1074 1076
1071 1075 1078
④ ⑥
① ⑤ ⑧
REEL CONTROL BOX
⑨
⑤
①-1001 ②-1002 ③-1003 ④-1004 ⑤-1005 ⑥-1006 ⑦-1007 ⑧-1008 ⑨-1009 ⑩-1010 ⑪-1011 ⑫-1012 ⑬-1013 ⑭-1014 ⑮-1015 ⑯-1016 ⑰-1017 ㉑-1021 ㉒-1022 ⑱-1018 ⑲-1019 ⑳-1020
REMOTE CONTROL UNIT
⑩
③ SHUNT CAPACITOR
④
1044
1046
④ ③ ② ①
1051 1052 1053 1057 1056 1055
1054 1058
Ⓐ ⑥ ⑧ ⑦ ⑥ ⑤
1050
RECEIVER
⑰
1057
⑦
⑫
1030 1028 1019 1024
1020 1018 1027 1029 1023
① ② ③ ④ ⑤ ⑥
1036 1062 1055 1051
692 691
MIC. TIP (CONTROL)
SEE NOTE-2
690 ⑦
MIC. RING (VOICE)
AUDIO OUTPUT
TERMINAL PANEL
TO INTERPHONE
㉒
1063
1064
KEY
①-1031 ②-1032 ③-1033 ④-1034 ⑤-1035 ⑥-1036 ⑦-1037 ⑧-1038 ⑨-1039 ⑩-1000
⑬
②-1060 ③-1061
⑭
1060
1061
⑲
⑳
1053 ㉑
⑪
DYNAMOTOR UNIT
⑥
TO +28 VOLT BUS
1046 RECEIVER
1043
ANT. COND.
1040
1042 LOAD COIL
1049 GROUND
⑮
1062-② 1059-③ ①
1001-① 1002-② 1003-③ 1004-④ 1005-⑤ 1006-⑥ 1007-⑦ 1008-⑧ 1009-⑨ 1010-⑩ 1011-⑪ 1012-⑫ 1013-⑬ 1014-⑭ 1015-⑮ 1016-⑯ 1017-⑰ 1021-㉑ 1022-㉒ 1028-⑱ 1029-⑲ 1030-⑳ 1023-㉓ 1024-㉔ 1027-㉗ ㉖-1026 ㉕
1031-① 1032-② 1033-③ 1034-④ 1035-⑤ 1036-⑥ 1037-⑦ 1038-⑧ 1039-⑨ 1000-⑩
TRANSMITTER
①

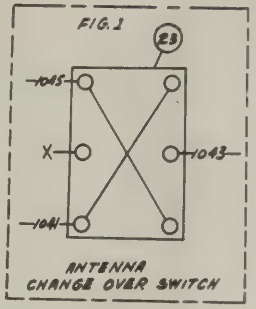
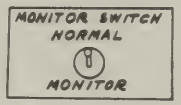


FIG. 1
㉓
1045
X
1043
1041
ANTENNA CHANGE OVER SWITCH


MONITOR SWITCH NORMAL
MONITOR

COMPONENT TABLE

Item	Quan. Req'd.	Equipment Nomenclature			Spec. or Installation Drawing	Installation Figure No.
		Description	Type No.	Manufacturer's Part Number		
* 1	1	Radio Transmitter	T-47A/ART-13		H44G26626	5-1
* 2	1	Antenna Loading Unit (See Note 9)	CU-32/ART-13A		H44G26603	5-5 5-6
* 3	1	Antenna Shunt Capacitor (See Note 8)	CU-24/ART-13		H44D3446	5-12
* 4	1	Switch (See Note 8)	SA-46/ART-13A		H45D2584	5-13
* 5	1	Control Unit (Remote)	C-87/ART-13		H44D3445	5-11
* 6	1	Dynamotor Unit	DY-17/ART-13A		H45G2467	5-3
* 7	1	Radio Receiver	BC-348-( )		H40D3166	
* 8	1	Reel (Antenna)	RL-42-B		H42G4623	
* 9	1	Reel Control Box	BC-461		H42G4623	
*10	1	Plug	U-6/U	NK-27-21C 11/16	H44D3981	5-14
*11	1	Plug	U-7/U	FK-10-21C 9/16	H44D3981	5-14
*12	1	Plug	U-8/U	RNK-27-22C 11/16	H44D3981	5-14
*13	1	Plug	U-9/U	RFK-10-24C 9/16	H44D3981	5-14
*14	1	Plug	U-10/U	GK-C3-23C 1/2	H44D3981	5-14
*15	1	Plug	U-11/U	RWK-C3-22C 7/16	H44D3981	5-14
*16	1	Plug	U-12/U	WK-C3-23C 7/16	H44D3981	5-14
*17	1	Plug	PL-(PORQ) 103		H40D3166	
*18	2	Plug	PL-112		H42-G4623	
19	1	Circuit Breaker	AN-3161-50		AN-C-77A	
20	1	Cricuit Breaker	AN-3161-10		AN-C-77A	
21	1	Circuit Breaker	AN-3161-5		AN-C-77A	
*22	1	Key	J-37		H39B3362	
*23	1	Switch (See Note 9)	SA-13/U		H44D3942	5-10

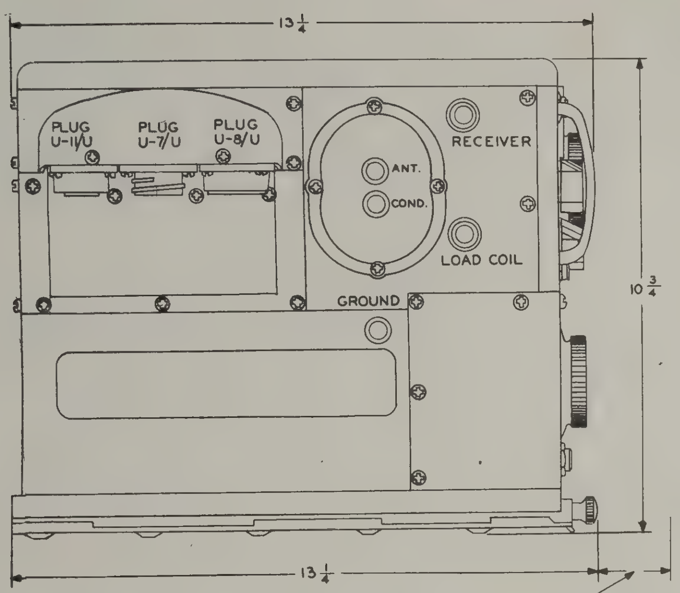
*Indicates Government furnished equipment.

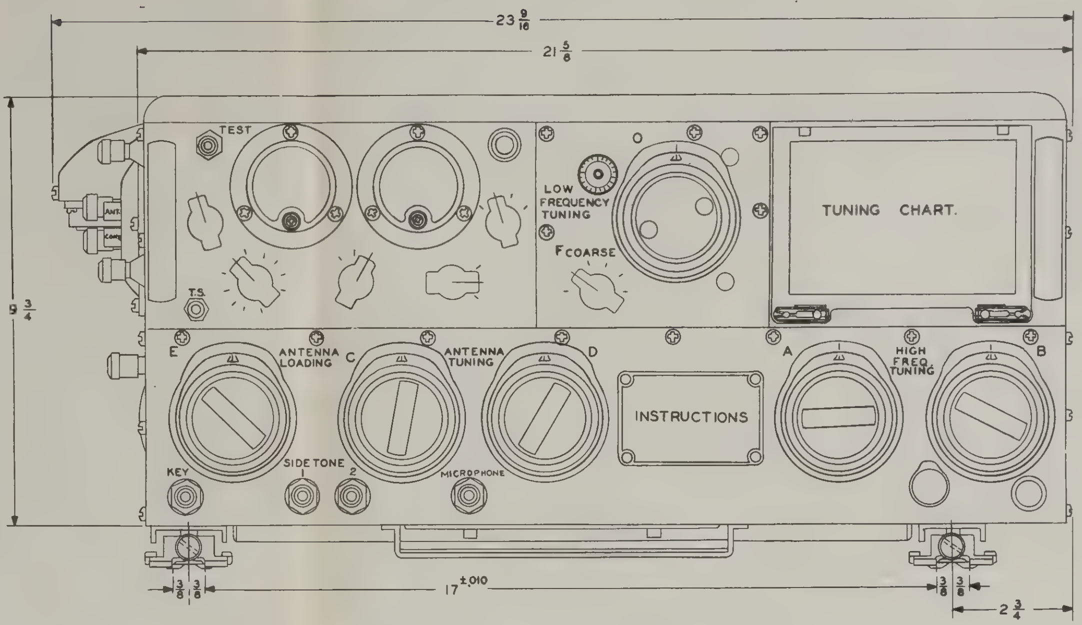
Manufacturer shall indicate to which points on Electrical Wiring Diagram these connections are made.

POWER REQUIRED AT 28 VOLTS INPUT

Receiver	Maximum	2 Amps.
Transmitter	Stand By On Voice	11 Amps.
	Maximum	37 Amps.
Reel	Maximum	4.5 Amps.

Figure 5-15 - Radio Set AN/ARC-8 - Typical Wiring Diagram


13 1/4
PLUG U-11/U
PLUG U-7/U
PLUG U-8/U
ANT.
COND.
RECEIVER
LOAD COIL
GROUND
10 3/4
13 1/4


23 9/16
21 5/8
9 3/4
TEST
T.S.
LOW FREQUENCY TUNING
F COARSE
O
TUNING CHART.
E
ANTENNA LOADING
C
ANTENNA TUNING
D
INSTRUCTIONS
A
HIGH FREQ. TUNING
B
KEY
SIDE TONE 1 2
MICROPHONE
3/8
3/8
17 ±.010
3/8
3/8
2 3/4

TRANSMITTER MOVES FORWARD
2 INCHES TO DISENGAGE FROM BASES

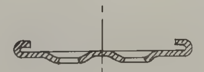
1-THIS UNIT MUST BE LOCATED SO THAT CONTROLS AND DIALS CAN BE EASILY REACHED AND READ IN FLIGHT.

2-TRACKS SHALL BE ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE THROUGH MOUNTING FEET AND BOLTS.

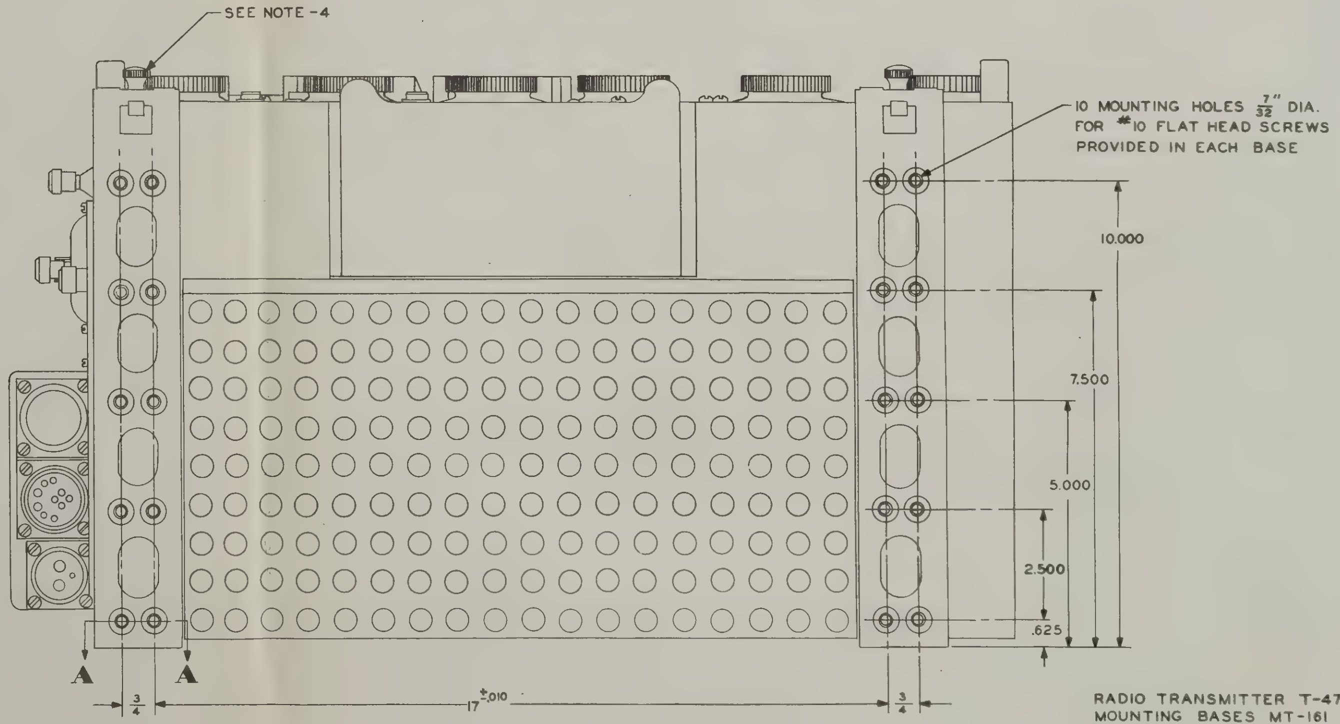
3-FOR PROPER VENTILATION, ALLOW 2 INCH AIR SPACE BEHIND AND ON EACH END OF CASE, ALLOW 5 INCH AIR SPACE ABOVE CASE, AND DO NOT RESTRICT NORMAL 1 INCH SPACING BELOW CASE.

4-MOUNTING CLAMP KNOBS SHALL BE SECURELY TIGHTENED BY HAND AND TIED TO BASE WITH .032 DIAMETER SAFETY WIRE.

WEIGHT 70 LBS. MAX.

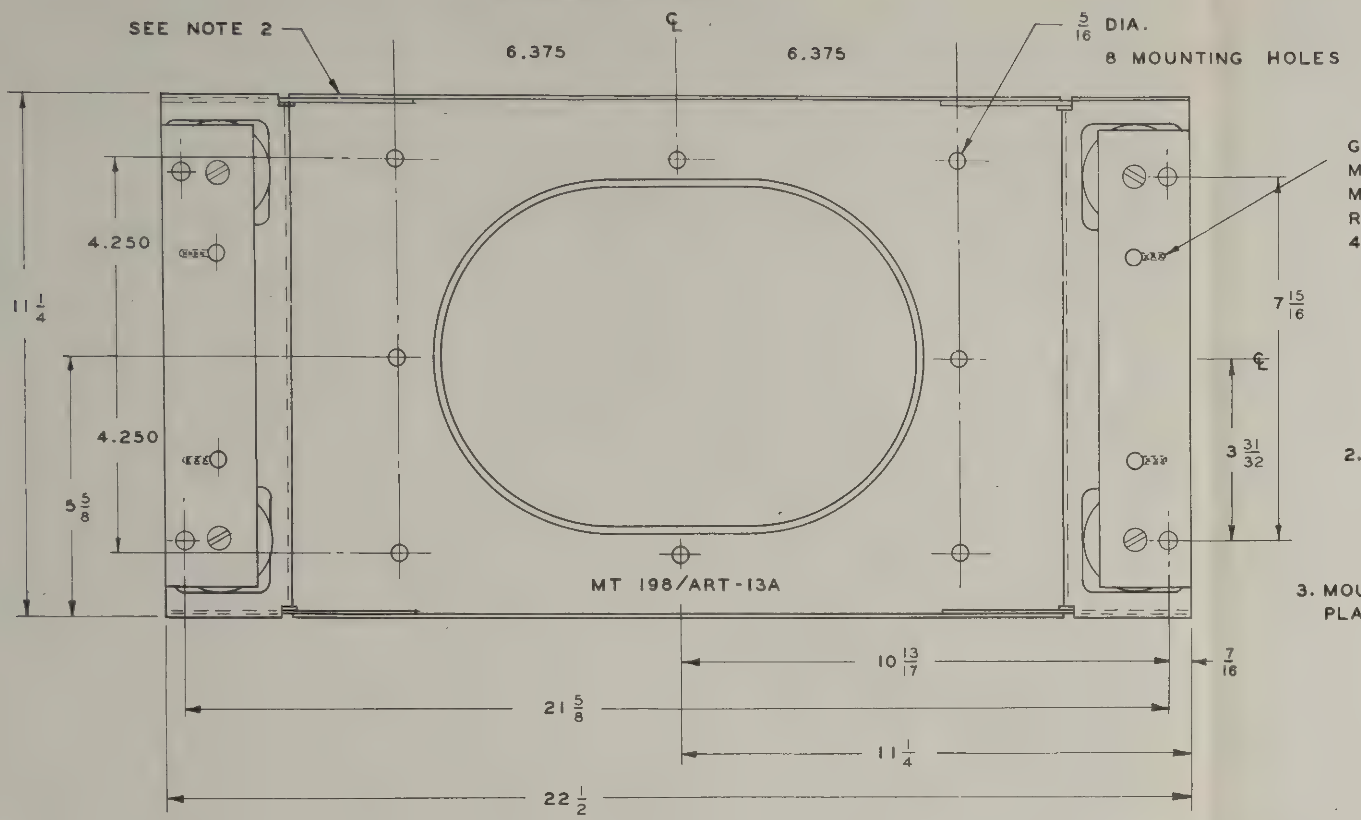


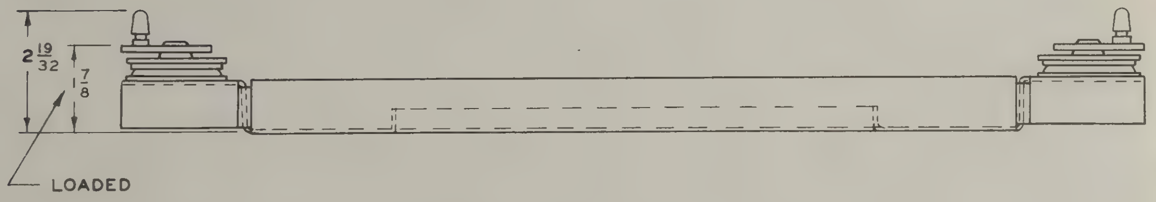
ENLARGED SECTION **A-A**


SEE NOTE-4
10 MOUNTING HOLES 7/32" DIA.
FOR #10 FLAT HEAD SCREWS
PROVIDED IN EACH BASE
10.000
7.500
5.000
2.500
.625
A
A
3/4
17 ±.010
3/4

RADIO TRANSMITTER T-47 /ART-13
MOUNTING BASES MT-161 /ART-13

Figure 5-2—Radio Transmitter T-47/ART-13 (Navy Type 52286)—Outline Dimensions


SEE NOTE 2
6.375
℄
6.375
5/16 DIA.
8 MOUNTING HOLES
GROUND STRAP BETWEEN MOUNTING STRAP AND MOUNTING PLATE. RIVETED BOTH ENDS 4 STRAPS
4.250
11 1/4
4.250
5 5/8
7 15/16
℄
3 31/32
MT 198/ART-13A
10 13/17
7/16
21 5/8
11 1/4
22 1/2

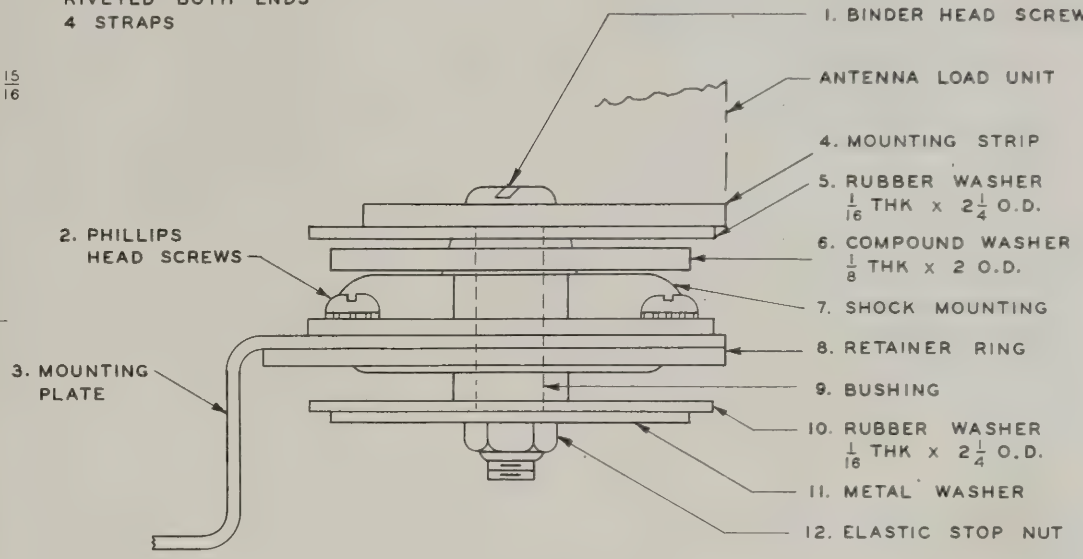

2 19/32
1 7/8
LOADED

MOUNTING SHOWN IN LOADED POSITION
BOTTOM MOUNTING
(SEE NOTE 1)

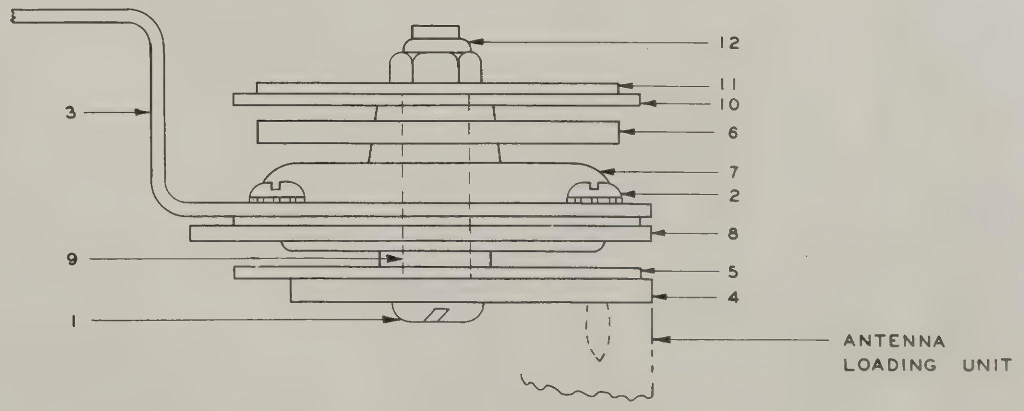
NOTES:

1. MOUNTING PLATE WILL BE SUPPLIED ASSEMBLIED FOR BOTTOM MOUNTING. FOR OVERHEAD MOUNTING, SHOCK MOUNTS MUST BE ASSEMBLED ACCORDING TO ENLARGED SKETCH.
2. MOUNTING PLATE MUST ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE.

WEIGHT 3.2 LBS.

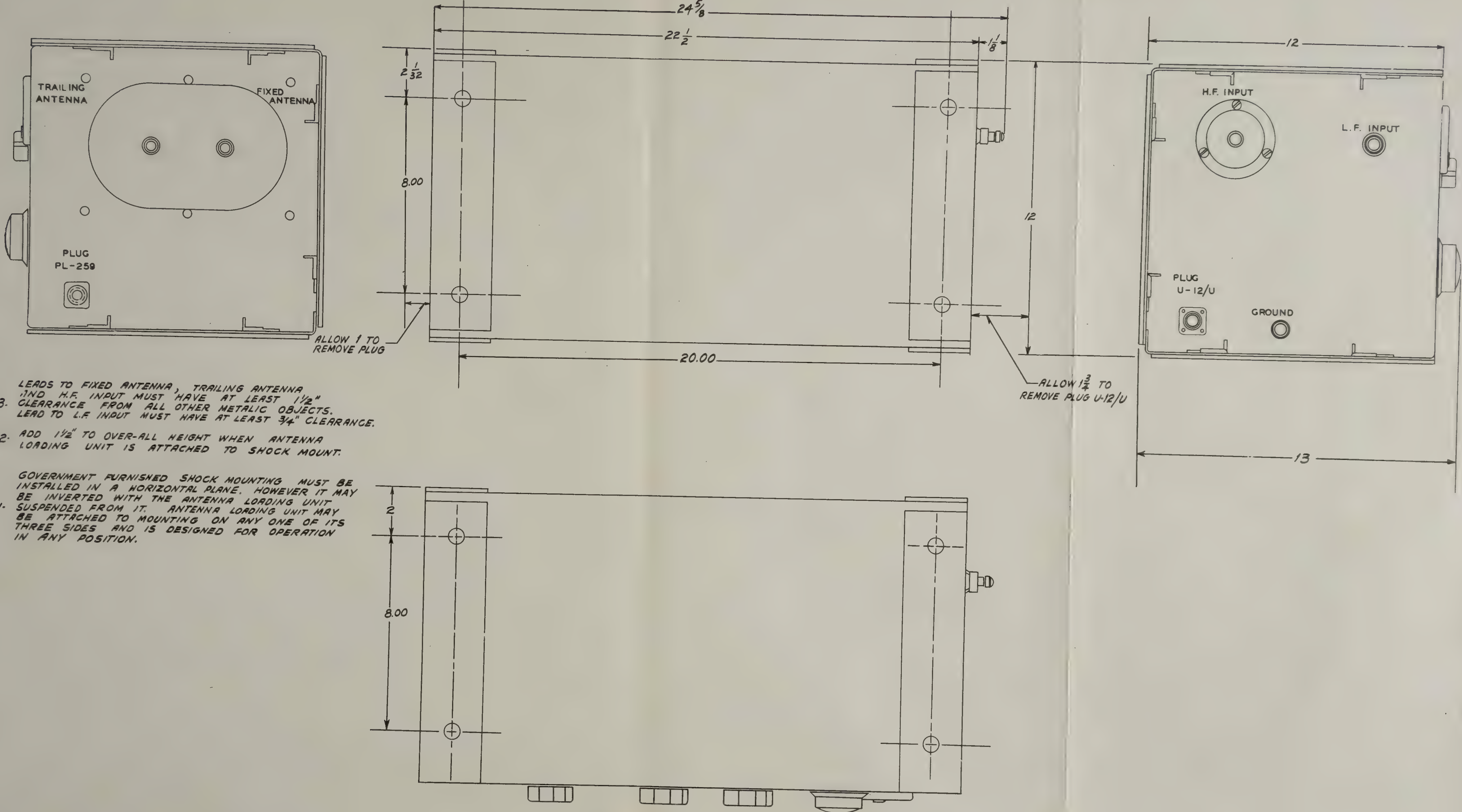

1. BINDER HEAD SCREW
ANTENNA LOAD UNIT
4. MOUNTING STRIP
5. RUBBER WASHER 1/16 THK x 2 1/4 O.D.
2. PHILLIPS HEAD SCREWS
6. COMPOUND WASHER 1/8 THK x 2 O.D.
7. SHOCK MOUNTING
8. RETAINER RING
3. MOUNTING PLATE
9. BUSHING
10. RUBBER WASHER 1/16 THK x 2 1/4 O.D.
11. METAL WASHER
12. ELASTIC STOP NUT

ENLARGED VIEW SHOWING BUILDING UP OF PARTS
FOR BOTTOM MOUNTING
SCALE (APPROX.) 2:1


12
11
10
3
6
7
2
8
9
5
4
1
ANTENNA LOADING UNIT

ENLARGED VIEW SHOWING BUILDING UP OF PARTS
FOR OVERHEAD MOUNTING
NOTE NUMBERS REFER TO VIEW ABOVE

Figure 5-6—Mounting Base MT-198/ART-13A—Outline Dimensions (for Antenna Loading Unit CU-32/ART-13A)


24 5/8
22 1/2
1/8
12
2 1/32
8.00
12
TRAILING ANTENNA
FIXED ANTENNA
PLUG PL-259
ALLOW 1 TO REMOVE PLUG
20.00
H.F. INPUT
L.F. INPUT
PLUG U-12/U
GROUND
ALLOW 1 3/4 TO REMOVE PLUG U-12/U
13
2
8.00

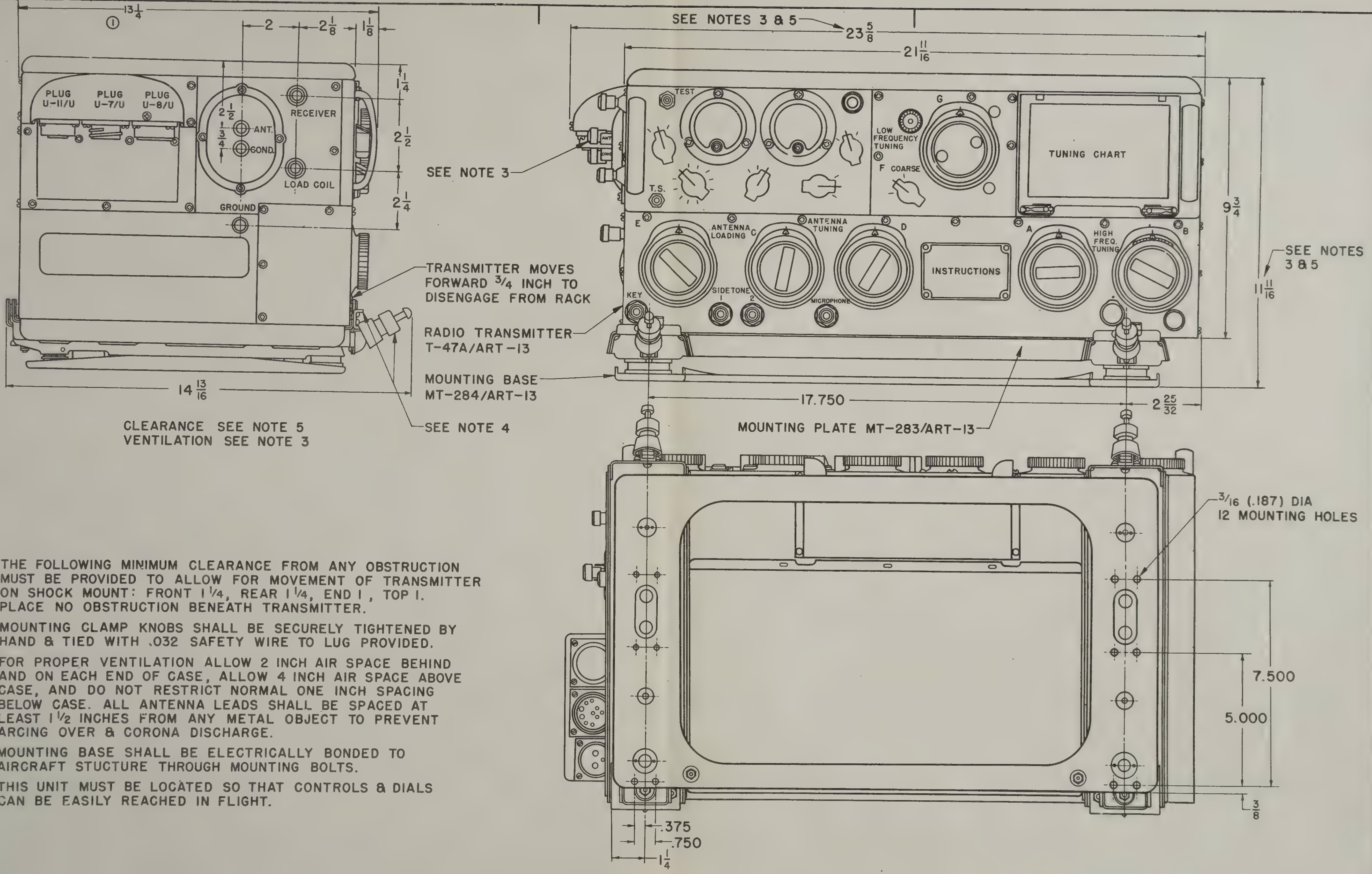
3. LEADS TO FIXED ANTENNA, TRAILING ANTENNA AND H.F. INPUT MUST HAVE AT LEAST 1½" CLEARANCE FROM ALL OTHER METALIC OBJECTS. LEAD TO L.F INPUT MUST HAVE AT LEAST ¾" CLEARANCE.

2. ADD 1½" TO OVER-ALL HEIGHT WHEN ANTENNA LOADING UNIT IS ATTACHED TO SHOCK MOUNT.

1. GOVERNMENT FURNISHED SHOCK MOUNTING MUST BE INSTALLED IN A HORIZONTAL PLANE. HOWEVER IT MAY BE INVERTED WITH THE ANTENNA LOADING UNIT SUSPENDED FROM IT. ANTENNA LOADING UNIT MAY BE ATTACHED TO MOUNTING ON ANY ONE OF ITS THREE SIDES AND IS DESIGNED FOR OPERATION IN ANY POSITION.

WEIGHT 25.12 LBS

Figure 5-5—Antenna Loading Unit CU-32/ART-13A—Outline Dimensions (for Mounting Base MT-198/ART-13A see fig. 5-6)


① $13\frac{1}{4}$
2
$2\frac{1}{8}$
$1\frac{1}{8}$
PLUG U-11/U
PLUG U-7/U
PLUG U-8/U
$2\frac{1}{2}$
$\frac{3}{4}$
ANT.
COND.
RECEIVER
LOAD COIL
GROUND
$1\frac{1}{4}$
$2\frac{1}{2}$
$2\frac{1}{4}$
$14\frac{13}{16}$
CLEARANCE SEE NOTE 5
VENTILATION SEE NOTE 3
TRANSMITTER MOVES FORWARD 3/4 INCH TO DISENGAGE FROM RACK
RADIO TRANSMITTER T-47A/ART-13
MOUNTING BASE MT-284/ART-13
SEE NOTE 4
SEE NOTE 3
SEE NOTES 3 & 5
$23\frac{5}{8}$
$21\frac{11}{16}$
TEST
T.S.
LOW FREQUENCY TUNING
G
F COARSE
TUNING CHART
E
ANTENNA LOADING
C
ANTENNA TUNING
D
A
HIGH FREQ. TUNING
B
INSTRUCTIONS
KEY
SIDETONE
1
2
MICROPHONE
$9\frac{3}{4}$
SEE NOTES 3 & 5
$11\frac{11}{16}$
17.750
$2\frac{25}{32}$
MOUNTING PLATE MT-283/ART-13
3/16 (.187) DIA 12 MOUNTING HOLES
7.500
5.000
$\frac{3}{8}$
.375
.750
$1\frac{1}{4}$

5. THE FOLLOWING MINIMUM CLEARANCE FROM ANY OBSTRUCTION MUST BE PROVIDED TO ALLOW FOR MOVEMENT OF TRANSMITTER ON SHOCK MOUNT: FRONT 1 1/4, REAR 1 1/4, END 1, TOP 1. PLACE NO OBSTRUCTION BENEATH TRANSMITTER.
4. MOUNTING CLAMP KNOBS SHALL BE SECURELY TIGHTENED BY HAND & TIED WITH .032 SAFETY WIRE TO LUG PROVIDED.
3. FOR PROPER VENTILATION ALLOW 2 INCH AIR SPACE BEHIND AND ON EACH END OF CASE, ALLOW 4 INCH AIR SPACE ABOVE CASE, AND DO NOT RESTRICT NORMAL ONE INCH SPACING BELOW CASE. ALL ANTENNA LEADS SHALL BE SPACED AT LEAST 1 1/2 INCHES FROM ANY METAL OBJECT TO PREVENT ARCING OVER & CORONA DISCHARGE.
2. MOUNTING BASE SHALL BE ELECTRICALLY BONDED TO AIRCRAFT STUCTURE THROUGH MOUNTING BOLTS.
1. THIS UNIT MUST BE LOCATED SO THAT CONTROLS & DIALS CAN BE EASILY REACHED IN FLIGHT.

Figure 5-1—Radio Transmitter T-47A/ART-13—Outline Dimensions

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 4400—4500 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4400	**5**	**843.0**	4434	5	906.1	4468	5	979.1
4401	5	844.9	4435	5	908.0	4469	5	970.9
4402	5	846.7	4436	5	909.8			
4403	5	848.6	4437	5	911.7	4470	5	972.8
4404	5	850.4	4438	5	913.5	4471	5	974.6
4405	5	852.3	4439	5	915.4	4472	5	976.5
4406	5	854.1				4473	5	978.3
4407	5	856.0	4440	5	917.2	4474	5	980.2
4408	5	857.8	4441	5	919.1	4475	5	982.0
4409	5	859.7	4442	5	921.0	4476	5	983.9
			4443	5	922.8	4477	5	985.7
4410	5	861.6	4444	5	924.7	4478	5	987.6
4411	5	863.4	4445	5	926.5	4479	5	989.4
4412	5	865.3	4446	5	928.4			
4413	5	867.1	4447	5	930.2	4480	5	991.2
4414	5	869.0	4448	5	932.1	4481	5	993.1
4415	5	870.8	4449	5	933.9	4482	5	994.9
4416	5	872.7				4483	5	996.8
4417	5	874.6	4450	5	935.8	4484	5	998.6
4418	5	876.4	4451	5	937.6	4485	5	1000.5
4419	5	878.3	4452	5	939.5	4486	5	1002.3
			4453	5	941.4	4487	5	1004.2
4420	5	880.1	4454	5	943.2	4488	5	1006.0
4421	5	882.0	4455	5	945.1	4489	5	1007.9
4422	5	883.8	4456	5	946.9			
4423	5	885.7	4457	5	948.8	4490	5	1009.7
4424	5	887.5	4458	5	950.6	4491	5	1011.6
4425	5	889.4	4459	5	952.5	4492	5	1013.5
4426	5	891.3				4493	5	1015.3
4427	5	893.1	4460	5	954.3	4494	5	1017.2
4428	5	895.0	4461	5	956.2	4495	5	1019.0
4429	5	896.8	4462	5	958.0	4496	5	1020.9
			4463	5	959.9	4497	5	1022.7
4430	5	898.7	4464	5	961.7	4498	5	1024.6
4431	5	900.5	4465	5	963.6	4499	5	1026.4
4432	5	902.4	4466	5	965.4			
4433	5	904.2	4467	5	967.3	4500	5	1028.3

Use check point at 4400 Kc

Frequency: 4600—4700 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4600	**5**	**1211.8**	4634	5	1273.9	4668	5	1336.2
4601	5	1213.6	4635	5	1275.7	4669	5	1338.0
4602	5	1215.4	4636	5	1277.5			
4603	5	1217.3	4637	5	1279.4	4670	5	1339.8
4804	5	1219.1	4638	5	1281.2	4671	5	1341.7
4605	5	1220.9	4639	5	1283.0	4672	5	1343.5
4606	5	1222.7				4673	5	1345.3
4607	5	1224.6	4640	5	1284.8	4674	5	1347.1
4608	5	1226.4	4641	5	1286.7	4675	5	1349.0
4609	5	1228.2	4642	5	1288.5	4676	5	1350.8
			4643	5	1290.3	4677	5	1352.6
4610	5	1230.0	4644	5	1292.2	4678	5	1354.5
4611	5	1231.9	4645	5	1294.0	4679	5	1356.3
4612	5	1233.7	4646	5	1295.8			
4613	5	1235.5	4647	5	1297.7	4680	5	1358.1
4614	5	1237.3	4648	5	1299.5	4681	5	1359.9
4615	5	1239.2	4649	5	1301.3	4682	5	1361.8
4616	5	1241.0				4683	5	1363.6
4617	5	1242.8	4650	5	1303.2	4684	5	1365.4
4618	5	1244.6	4651	5	1305.0	4685	5	1367.3
4619	5	1246.5	4652	5	1306.8	4686	5	1369.1
			4653	5	1308.7	4687	5	1370.9
4620	5	1248.3	4654	5	1310.5	4688	5	1372.7
4621	5	1250.1	4655	5	1312.4	4689	5	1374.6
4622	5	1252.0	4656	5	1314.2			
4623	5	1253.8	4657	5	1316.0	4690	5	1376.4
4624	5	1255.6	4658	5	1317.9	4691	5	1378.2
4625	5	1257.4	4659	5	1319.7	4692	5	1380.0
4626	5	1259.3				4693	5	1381.9
4627	5	1261.1	4660	5	1321.5	4694	5	1383.7
4628	5	1262.9	4661	5	1323.4	4695	5	1385.5
4629	5	1264.7	4662	5	1325.2	4696	5	1387.3
			4663	5	1327.0	4697	5	1389.2
4630	5	1266.6	4664	5	1328.8	4698	5	1391.0
4631	5	1268.4	4665	5	1330.7	4699	5	1392.8
4632	5	1270.2	4666	5	1332.5			
4633	5	1272.1	4667	5	1334.3	4700	5	1394.6

Use check point at 4600 Kc

Frequency: 4500—4600 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4500	5	1028.3	4534	5	1090.9	4568	5	1153.3
4501	5	1030.1	4535	5	1092.7	4569	5	1155.1
4502	5	1032.0	4536	5	1094.6			
4503	5	1033.8	4537	5	1096.4	4570	5	1156.9
4504	5	1035.7	4538	5	1098.2	4571	5	1158.8
4505	5	1037.5	4539	5	1100.1	4572	5	1160.6
4506	5	1039.4				4573	5	1162.4
4507	5	1041.2	4540	5	1101.9	4574	5	1164.2
4508	5	1043.1	4541	5	1103.7	4575	5	1166.1
4509	5	1044.9	4542	5	1105.6	4576	5	1167.9
			4543	5	1107.4	4577	5	1169.7
4510	5	1046.8	4544	5	1109.3	4578	5	1171.6
4511	5	1048.6	4545	5	1111.1	4579	5	1173.4
4512	5	1050.5	4546	5	1112.9			
4513	5	1052.3	4547	5	1114.8	4580	5	1175.2
4514	5	1054.2	4548	5	1116.6	4581	5	1177.1
4515	5	1056.0	4549	5	1118.4	4582	5	1178.9
4516	5	1057.9				4583	5	1180.7
4517	5	1059.7	4550	5	1120.3	4584	5	1182.5
4518	5	1061.6	4551	5	1122.1	4585	5	1184.4
4519	5	1063.4	4552	5	1123.9	4586	5	1186.2
			4553	5	1125.8	4587	5	1188.0
4520	5	1065.3	4554	5	1127.6	4588	5	1189.9
4521	5	1067.1	4555	5	1129.4	4589	5	1191.7
4522	5	1068.9	4556	5	1131.3			
4523	5	1070.8	4557	5	1133.1	4590	5	1193.5
4524	5	1072.6	4558	5	1134.9	4591	5	1195.3
4525	5	1074.4	4559	5	1136.8	4592	5	1197.2
4526	5	1076.3				4593	5	1199.0
4527	5	1078.1	4560	5	1138.6	4594	5	1200.8
4528	5	1079.9	4561	5	1140.4	4595	5	1202.6
4529	5	1081.8	4562	5	1142.3	4596	5	1204.5
			4563	5	1144.1	4597	5	1206.3
4530	5	1083.6	4564	5	1145.9	4598	5	1208.1
4531	5	1085.4	4565	5	1147.8	4599	5	1210.0
4532	5	1087.3	4566	5	1149.6			
4533	5	1089.1	4567	5	1151.4	**4600**	**5**	**1211.8**

Use check point at 4600 Kc

Frequency: 4700—4800 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4700	5	1394.6	4734	5	1456.9	4768	5	1519.6
4701	5	1396.5	4735	5	1458.7	4769	5	1521.4
4702	5	1398.3	4736	5	1460.6			
4703	5	1400.1	4737	5	1462.4	4770	5	1523.3
4704	5	1402.0	4738	5	1464.2	4771	5	1525.1
4705	5	1403.8	4739	5	1466.0	4772	5	1527.0
4706	5	1405.7				4773	5	1528.8
4707	5	1407.5	4740	5	1467.9	4774	5	1530.7
4708	5	1409.3	4741	5	1469.7	4775	5	1532.5
4709	5	1411.2	4742	5	1471.6	4776	5	1534.3
			4743	5	1473.4	4777	5	1536.2
4710	5	1413.0	4744	5	1475.3	4778	5	1538.0
4711	5	1414.8	4745	5	1477.1	4779	5	1539.9
4712	5	1416.7	4746	5	1479.0			
4713	5	1418.5	4747	5	1480.8	4780	5	1541.7
4714	5	1420.3	4748	5	1482.7	4781	5	1543.6
4715	5	1422.2	4749	5	1484.5	4782	5	1545.4
4716	5	1424.0				4783	5	1547.3
4717	5	1425.9	4750	5	1486.4	4784	5	1549.1
4718	5	1427.7	4751	5	1488.2	4785	5	1551.0
4719	5	1429.5	4752	5	1490.0	4786	5	1552.9
			4753	5	1491.9	4787	5	1554.7
4720	5	1431.4	4754	5	1493.7	4788	5	1556.6
4721	5	1433.2	4755	5	1495.6	4789	5	1558.4
4722	5	1435.0	4756	5	1497.4			
4723	5	1436.8	4757	5	1499.3	4790	5	1560.3
4724	5	1438.7	4758	5	1501.1	4791	5	1562.1
4725	5	1440.5	4759	5	1503.0	4792	5	1564.0
4726	5	1442.3				4793	5	1565.9
4727	5	1444.1	4760	5	1504.8	4794	5	1567.7
4728	5	1446.0	4761	5	1506.7	4795	5	1569.6
4729	5	1447.8	4762	5	1508.5	4796	5	1571.4
			4763	5	1510.4	4797	5	1573.3
4730	5	1449.6	4764	5	1512.2	4798	5	1575.1
4731	5	1451.4	4765	5	1514.1	4799	5	1577.0
4732	5	1453.3	4766	5	1515.9			
4733	5	1455.1	4767	5	1517.7	**4800**	**5**	**1578.9**

Use check point at 4800 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 4000–4100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4000	**5**	**100.1**	4034	5	162.9	4068	5	225.4
4001	5	102.0	4035	5	164.8	4069	5	227.2
4002	5	103.8	4036	5	166.6			
4003	5	105.7	4037	5	168.5	4070	5	229.1
4004	5	107.5	4038	5	170.3	4071	5	230.9
4005	5	109.4	4039	5	172.1	4072	5	232.7
4006	5	111.2				4073	5	234.6
4007	5	113.1	4040	5	174.0	4074	5	236.4
4008	5	114.9	4041	5	175.8	4075	5	238.3
4009	5	116.8	4042	5	177.7	4076	5	240.1
			4043	5	179.5	4077	5	241.9
4010	5	118.6	4044	5	181.3	4078	5	243.8
4011	5	120.5	4045	5	183.2	4079	5	245.6
4012	5	122.3	4046	5	185.0			
4013	5	124.2	4047	5	186.8	4080	5	247.4
4014	5	126.0	4048	5	188.7	4081	5	249.3
4015	5	127.9	4049	5	190.5	4082	5	251.1
4016	5	129.7				4083	5	253.0
4017	5	131.6	4050	5	192.3	4084	5	254.8
4018	5	133.4	4051	5	194.2	4085	5	256.7
4019	5	135.3	4052	5	196.0	4086	5	258.5
			4053	5	197.8	4087	5	260.3
4020	5	137.1	4054	5	199.7	4088	5	262.2
4021	5	139.0	4055	5	201.5	4089	5	264.0
4022	5	140.8	4056	5	203.4			
4023	5	142.7	4057	5	205.2	4090	5	265.9
4024	5	144.5	4058	5	207.0	4091	5	267.7
4025	5	146.4	4059	5	208.9	4092	5	269.6
4026	5	148.2				4093	5	271.4
4027	5	150.0	4060	5	210.7	4094	5	273.2
4028	5	151.9	4061	5	212.5	4095	5	275.1
4029	5	153.7	4062	5	214.4	4096	5	276.9
			4063	5	216.2	4097	5	278.8
4030	5	155.6	4064	5	218.0	4098	5	280.6
4031	5	157.4	4065	5	219.9	4099	5	282.5
4032	5	159.2	4066	5	221.7			
4033	5	161.1	4067	5	223.6	4100	5	284.3

Use check point at 4000 Kc

Frequency: 4200–4300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4200	**5**	**469.6**	4234	5	532.9	4268	5	596.4
4201	5	471.4	4235	5	534.8	4269	5	598.3
4202	5	473.3	4236	5	536.6			
4203	5	475.2	4237	5	538.5	4270	5	600.1
4204	5	477.0	4238	5	540.4	4271	5	602.0
4205	5	478.9	4239	5	542.3	4272	5	603.9
4206	5	480.7				4273	5	605.7
4207	5	482.6	4240	5	544.1	4274	5	607.6
4208	5	484.4	4241	5	546.0	4275	5	609.5
4209	5	486.3	4242	5	547.9	4276	5	611.4
			4243	5	549.7	4277	5	613.2
4210	5	488.2	4244	5	551.6	4278	5	615.1
4211	5	490.0	4245	5	553.4	4279	5	617.0
4212	5	491.9	4246	5	555.3			
4213	5	493.7	4247	5	557.2	4280	5	618.8
4214	5	495.6	4248	5	559.0	4281	5	620.7
4215	5	497.4	4249	5	560.9	4282	5	622.6
4216	5	499.3				4283	5	624.5
4217	5	501.1	4250	5	562.8	4284	5	626.3
4218	5	503.0	4251	5	564.6	4285	5	628.2
4219	5	504.9	4252	5	566.5	4286	5	630.1
			4253	5	568.4	4287	5	631.9
4220	5	506.7	4254	5	570.2	4288	5	633.8
4221	5	508.6	4255	5	572.1	4289	5	635.7
4222	5	510.5	4256	5	574.0			
4223	5	512.3	4257	5	575.8	4290	5	637.5
4224	5	514.2	4258	5	577.7	4291	5	639.4
4225	5	516.1	4259	5	579.6	4292	5	641.3
4226	5	517 9				4293	5	643.2
4227	5	519.8	4260	5	581.4	4294	5	645.0
4228	5	521.7	4261	5	583.3	4295	5	646.9
4229	5	523.6	4262	5	585.2	4296	5	648.8
			4263	5	587.0	4297	5	650.6
4230	5	525.4	4264	5	588.9	4298	5	652.5
4231	5	527.3	4265	5	590.8	4299	5	654.4
4232	5	529.2	4266	5	592.6			
4233	5	531.0	4267	5	594.5	4300	5	656.2

Use check point at 4200 Kc

Frequency: 4100–4200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4100	5	284.3	4134	5	347.1	4168	5	410.0
4101	5	286.1	4135	5	348.9	4169	5	411.8
4102	5	288.0	4136	5	350.8			
4103	5	289.8	4137	5	352.6	4170	5	413.7
4104	5	291.7	4138	5	354.5	4171	5	415.6
4105	5	293.5	4139	5	356.3	4172	5	417.4
4106	5	295.4				4173	5	419.3
4107	5	297.2	4140	5	358.1	4174	5	421.2
4108	5	299.1	4141	5	360.0	4175	5	423.0
4109	5	300.9	4142	5	361.8	4176	5	424.9
			4143	5	363.7	4177	5	426.7
4110	5	302.8	4144	5	365.5	4178	5	428.6
4111	5	304.6	4145	5	367.4	4179	5	430.5
4112	5	306.5	4146	5	369.2			
4113	5	308.3	4147	5	371.1	4180	5	432.3
4114	5	310.2	4148	5	372.9	4181	5	434.2
4115	5	312.0	4149	5	374.8	4182	5	436.1
4116	5	313.9				4183	5	437.9
4117	5	315.7	4150	5	376.6	4184	5	439.8
4118	5	317.5	4151	5	378.4	4185	5	441.7
4119	5	319.4	4152	5	380.3	4186	5	443.5
			4153	5	382.1	4187	5	445.4
4120	5	321.2	4154	5	384.0	4188	5	447.2
4121	5	323.1	4155	5	385.8	4189	5	449.1
4122	5	324.9	4156	5	387.7			
4123	5	326.8	4157	5	389.5	4190	5	451.0
4124	5	328.6	4158	5	391.4	4191	5	452.8
4125	5	330.5	4159	5	393.2	4192	5	454.7
4126	5	332.3				4193	5	456.5
4127	5	334.2	4160	5	395.1	4194	5	458.4
4128	5	336.0	4161	5	396.9	4195	5	460.3
4129	5	337.8	4162	5	398.8	4196	5	462.1
			4163	5	400.7	4197	5	464.0
4130	5	339.7	4164	5	402.5	4198	5	465.9
4131	5	341.5	4165	5	404.4	4199	5	467.7
4132	5	343.4	4166	5	406.2			
4133	5	345.2	4167	5	408.1	**4200**	**5**	**469.6**

Use check point at 4200 Kc

Frequency: 4300–4400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4300	5	656.2	4334	5	719.8	4368	5	783.3
4301	5	658.1	4335	5	721.6	4369	5	785.2
4302	5	660.0	4336	5	723.5			
4303	5	661.8	4337	5	725.4	4370	5	787.1
4304	5	663.7	4338	5	727.2	4371	5	788.9
4305	5	665.6	4339	5	729.1	4372	5	790.8
4306	5	667.4				4373	5	792.7
4307	5	669.3	4340	5	731.0	4374	5	794.5
4308	5	671.2	4341	5	732.9	4375	5	796.4
4309	5	673.0	4342	5	734.7	4376	5	798.2
			4343	5	736.6	4377	5	800.1
4310	5	674.9	4344	5	738.5	4378	5	802.0
4311	5	676.8	4345	5	740.4	4379	5	803.8
4312	5	678.6	4346	5	742.2			
4313	5	680.5	4347	5	744.1	4380	5	805.7
4314	5	682.4	4348	5	746.0	4381	5	807.5
4315	5	684.2	4349	5	747.8	4382	5	809.4
4316	5	686.1				4383	5	811.3
4317	5	688.0	4350	5	749.7	4384	5	813.1
4318	5	689.8	4351	5	751.6	4385	5	815.0
4319	5	691.7	4352	5	753.5	4386	5	816.9
			4353	5	755.3	4387	5	818.7
4320	5	693.6	4354	5	757.2	4388	5	820.6
4321	5	695.5	4355	5	759.1	4389	5	822.5
4322	5	697.3	4356	5	761.0			
4323	5	699.2	4357	5	762.8	4390	5	824.3
4324	5	701.1	4358	5	764.7	4391	5	826.2
4325	5	702.9	4359	5	766.6	4392	5	828.1
4326	5	704.8				4393	5	829.9
4327	5	706.7	4360	5	768.5	4394	5	831.8
4328	5	708.5	4361	5	770.3	4395	5	833.7
4329	5	710.4	4362	5	772.2	4396	5	835.5
			4363	5	774.0	4397	5	837.4
4330	5	712.3	4364	5	775.9	4398	5	839.3
4331	5	714.2	4365	5	777.8	4399	5	841.1
4332	5	716.0	4366	5	779.6			
4333	5	717.9	4367	5	781.5	**4400**	**5**	**843.0**

Use check point at 4400 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 5200–5300 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
5200	**6**	**673.4**	5234	6	726.0	5268	6	778.3
5201	6	675.0	5235	6	727.5	5269	6	779.9
5202	6	676.5	5236	6	729.1			
5203	6	678.0	5237	6	730.6	5270	6	781.4
5204	6	679.6	5238	6	732.2	5271	6	783.0
5205	6	681.1	5239	6	733.7	5272	6	784.5
5206	6	682.7				5273	6	786.0
5207	6	684.2	5240	6	735.3	5274	6	787.6
5208	6	685.7	5241	6	736.8	5275	6	789.1
5209	6	687.3	5242	6	738.3	5276	6	790.7
			5243	6	739.9	5277	6	792.2
5210	6	688.8	5244	6	741.4	5278	6	793.8
5211	6	690.4	5245	6	742.9	5279	6	795.3
5212	6	691.9	5246	6	744.5			
5213	6	693.5	5247	6	746.0	5280	6	796.9
5214	6	695.0	5248	6	747.5	5281	6	798.4
5215	6	696.5	5249	6	749.1	5282	6	800.0
5216	6	698.1				5283	6	801.5
5217	6	699.6	5250	6	750.6	5284	6	803.1
5218	6	701.2	5251	6	752.1	5285	6	804.6
5219	6	702.7	5252	6	753.7	5286	5	806.2
			5253	6	755.2	5287	5	807.7
5220	6	704.2	5254	6	756.8	5288	6	809.3
5221	6	705.8	5255	6	758.3	5289	6	810.9
5222	6	707.3	5256	6	759.8			
5223	6	708.9	5257	6	761.4	5290	6	812.4
5224	6	710.4	5258	6	762.9	5291	6	814.0
5225	6	712.0	5259	6	764.4	5292	6	815.5
5226	6	713.5				5293	6	817.1
5227	6	715.1	5260	6	766.0	5294	6	818.6
5228	6	716.6	5261	6	767.5	5295	6	820.2
5229	6	718.2	5262	6	769.1	5296	6	821.7
			5263	6	770.6	5297	6	823.3
5230	6	719.8	5264	6	772.1	5298	6	824.9
5231	6	721.3	5265	6	773.7	5299	6	826.4
5232	6	722.9	5266	6	775.2			
5233	6	724.4	5267	6	776.8	5300	6	828.0

Use check point at 5200 Kc

Frequency: 5300–5400 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
5300	6	828.0	5334	6	880.0	5368	6	932.3
5301	6	829.5	5335	6	881.5	5369	6	933.8
5302	6	831.0	5336	6	883.1			
5303	6	832.6	5337	6	884.6	5370	6	935.3
5304	6	834.1	5338	6	886.1	5371	6	936.9
5305	6	835.7	5339	6	887.6	5372	6	938.4
5306	6	837.2				5373	6	939.9
5307	6	838.7	5340	6	889.1	5374	6	941.5
5308	6	840.3	5341	6	890.7	5375	6	943.0
5309	6	841.8	5342	6	892.2	5376	6	944.5
			5343	6	893.8	5377	6	946.1
5310	6	843.4	5344	6	895.3	5378	6	947.6
5311	6	844.9	5345	6	896.9	5379	6	949.1
5312	6	846.4	5346	6	898.4			
5313	6	848.0	5347	6	899.9	5380	6	950.7
5314	6	849.5	5348	6	901.5	5381	6	952.2
5315	6	851.1	5349	6	903.0	5382	6	953.7
5316	6	852.6				5383	6	955.3
5317	6	854.1	5350	6	904.6	5384	6	956.8
5318	6	855.7	5351	6	906.1	5385	6	958.3
5319	6	857.2	5352	6	907.7	5386	6	959.9
			5353	6	909.2	5387	6	961.4
5320	6	858.8	5354	6	910.8	5388	6	962.9
5321	6	860.3	5355	6	912.3	5389	6	964.5
5322	6	861.8	5356	6	913.8			
5323	6	863.3	5357	6	915.4	5390	6	966.0
5324	6	864.8	5358	6	916.9	5391	6	967.5
5325	6	866.4	5359	6	918.5	5392	6	969.1
5326	6	867.9				5393	6	970.6
5327	6	869.4	5360	6	920.0	5394	6	972.2
5328	6	870.9	5361	6	921.6	5395	6	973.7
5329	6	872.4	5362	6	923.1	5396	6	975.2
			5363	6	924.6	5397	6	976.8
5330	6	874.0	5364	6	926.1	5398	6	978.3
5331	6	875.5	5365	6	927.7	5399	6	979.8
5332	6	877.0	5366	6	929.2			
5333	6	878.5	5367	6	930.7	**5400**	**6**	**981.4**

Use check point at 5400 Kc

Frequency: 5400–5500 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
5400	**6**	**981.4**	5434	6	1033.3	5468	6	1085.2
5401	6	982.9	5435	6	1034.9	5469	6	1086.7
5402	6	984.4	5436	6	1036.4			
5403	6	986.0	5437	6	1037.9	5470	6	1088.2
5404	6	987.5	5438	6	1039.4	5471	6	1089.7
5405	6	989.0	5439	6	1041.0	5472	6	1091.3
5406	6	990.5				5473	6	1092.8
5407	6	992.1	5440	6	1042.5	5474	6	1094.3
5408	6	993.6	5441	6	1044.0	5475	6	1095.8
5409	6	995.1	5442	6	1045.5	5476	6	1097.3
			5443	6	1047.1	5477	6	1098.9
5410	6	996.7	5444	6	1048.6	5478	6	1100.4
5411	6	998.2	5445	6	1050.1	5479	6	1101.9
5412	6	999.7	5446	6	1051.6			
5413	6	1001.3	5447	6	1053.2	5480	6	1103.4
5414	6	1002.8	5448	6	1054.7	5481	6	1105.0
5415	6	1004.3	5449	6	1056.2	5482	6	1106.5
5416	6	1005.8				5483	6	1108.0
5417	6	1007.4	5450	6	1057.7	5484	6	1109.5
5418	6	1008.9	5451	6	1059.3	5485	6	1111.0
5419	6	1010.4	5452	6	1060.8	5486	6	1112.6
			5453	6	1062.3	5487	6	1114.1
5420	6	1012.0	5454	6	1063.8	5488	6	1115.6
5421	6	1013.5	5455	6	1065.4	5489	6	1117.1
5422	6	1015.0	5456	6	1066.9			
5423	6	1016.5	5457	6	1068.4	5490	6	1118.6
5424	6	1018.1	5458	6	1069.9	5491	6	1120.2
5425	6	1019.6	5459	6	1071.5	5492	6	1121.7
5426	6	1021.1				5493	6	1123.2
5427	6	1022.6	5460	6	1073.0	5494	6	1124.7
5428	6	1024.2	5461	6	1074.5	5495	6	1126.2
5429	6	1025.7	5462	6	1076.0	5496	6	1127.8
			5463	6	1077.5	5497	6	1129.3
5430	6	1027.2	5464	6	1079.1	5498	6	1130.8
5431	6	1028.7	5465	6	1080.6	5499	6	1132.3
5432	6	1030.3	5466	6	1082.1			
5433	6	1031.8	5467	6	1083.6	5500	6	1133.8

Use check point at 5400 Kc

Frequency: 5500–5600 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
5500	6	1133.8	5534	6	1185.4	5568	6	1237.0
5501	6	1135.4	5535	6	1186.9	5569	6	1238.5
5502	6	1136.9	5536	6	1188.4			
5503	6	1138.4	5537	6	1189.9	5570	6	1240.0
5504	6	1139.9	5538	6	1191.4	5571	6	1241.5
5505	6	1141.4	5539	6	1192.9	5572	6	1243.0
5506	6	1143.0				5573	6	1244.5
5507	6	1144.5	5540	6	1194.4	5574	6	1246.0
5508	6	1146.0	5541	6	1196.0	5575	6	1247.6
5509	6	1147.5	5542	6	1197.5	5576	6	1249.1
			5543	6	1199.0	5577	6	1250.6
5510	6	1149.0	5544	6	1200.5	5578	6	1252.1
5511	6	1150.5	5545	6	1202.1	5579	6	1253.6
5512	6	1152.1	5546	6	1203.6			
5513	6	1153.6	5547	6	1205.1	5580	6	1255.1
5514	6	1155.1	5548	6	1206.6	5581	6	1256.6
5515	6	1156.6	5549	6	1208.1	5582	6	1258.1
5516	6	1158.1				5583	6	1259.6
5517	6	1159.7	5550	6	1209.7	5584	6	1261.1
5518	6	1161.2	5551	6	1211.2	5585	6	1262.7
5519	6	1162.7	5552	6	1212.7	5586	6	1264.2
			5553	6	1214.2	5587	6	1265.7
5520	6	1164.2	5554	6	1215.8	5588	6	1267.2
5521	6	1165.7	5555	6	1217.3	5589	6	1268.7
5522	6	1167.2	5556	6	1218.8			
5523	6	1168.8	5557	6	1220.3	5590	6	1270.2
5524	6	1170.3	5558	6	1221.9	5591	6	1271.7
5525	6	1171.8	5559	6	1223.4	5592	6	1273.2
5526	6	1173.3				5593	6	1274.7
5527	6	1174.8	5560	6	1224.9	5594	6	1276.2
5528	6	1176.3	5561	6	1226.4	5595	6	1277.8
5529	6	1177.8	5562	6	1227.9	5596	6	1279.3
			5563	6	1229.4	5597	6	1280.8
5530	6	1179.3	5564	6	1230.9	5598	6	1282.3
5531	6	1180.8	5565	6	1232.5	5599	6	1283.8
5532	6	1182.4	5566	6	1234.0			
5533	6	1183.9	5567	6	1235.5	**5600**	**6**	**1285.3**

Use check point at 5600 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 4800–4900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4800	**6**	**60.0**	4834	6	112.1	4868	6	164.0
4801	6	61.5	4835	6	113.7	4869	6	165.5
4802	6	63.1	4836	6	115.2			
4803	6	64.6	4837	6	116.7	4870	6	167.0
4804	6	66.1	4838	6	118.3	4871	6	168.5
4805	6	67.7	4839	6	119.8	4872	6	170.0
4806	6	69.2				4873	6	171.6
4807	6	70.7	4840	6	121.3	4874	6	173.1
4808	6	72.3	4841	6	122.8	4875	6	174.6
4809	6	73.8	4842	6	124.4	4876	6	176.1
			4843	6	125.9	4877	6	177.6
4810	6	75.3	4844	6	127.4	4878	6	179.1
4811	6	76.9	4845	6	128.9	4879	6	180.7
4812	6	78.4	4846	6	130.5			
4813	6	79.9	4847	6	132.0	4880	6	182.2
4814	6	81.5	4848	6	133.5	4881	6	183.7
4815	6	83.0	4849	6	135.0	4882	6	185.2
4816	6	84.5				4883	6	186.7
4817	6	86.1	4850	6	136.6	4884	6	188.3
4818	6	87.6	4851	6	138.1	4885	6	189.8
4819	6	89.1	4852	6	139.6	4886	6	191.3
			4853	6	141.1	4887	6	192.8
4820	6	90.7	4854	6	142.7	4888	6	194.3
4821	6	92.2	4855	6	144.2	4889	6	195.9
4822	6	93.7	4856	6	145.7			
4823	6	95.3	4857	6	147.2	4890	6	197.4
4824	6	96.8	4858	6	148.8	4891	6	198.9
4825	6	98.3	4859	6	150.3	4892	6	200.4
4826	6	99.9				4893	6	202.0
4827	6	101.4	4860	6	151.8	4894	6	203.5
4828	6	102.9	4861	6	153.3	4895	6	205.0
4829	6	104.5	4862	6	154.9	4896	5	206.5
			4863	6	156.4	4897	6	208.0
4830	6	106.0	4864	6	157.9	4898	6	209.6
4831	6	107.5	4865	6	159.4	4899	6	211.1
4832	6	109.1	4866	6	160.9			
4833	6	110.6	4867	6	162.4	4900	6	212.6

Use check point at 4800 Kc

Frequency: 5000–5100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
5000	**6**	**365.2**	5034	6	417.2	5068	6	469.5
5001	6	366.7	5035	6	418.7	5069	6	471.0
5002	6	368.2	5036	6	420.2			
5003	6	369.7	5037	6	421.8	5070	6	472.5
5004	6	371.3	5038	6	423.3	5071	6	474.1
5005	6	372.8	5039	6	424.8	5072	6	475.6
5006	6	374.3				5073	6	477.1
5007	6	375.8	5040	6	426.4	5074	6	478.6
5008	6	377.3	5041	6	427.9	5075	6	480.2
5009	6	378.9	5042	6	429.5	5076	6	481.7
			5043	6	431.0	5077	6	483.2
5010	6	380.4	5044	6	432.6	5078	6	484.8
5011	6	381.9	5045	6	434.1	5079	6	486.3
5012	6	383.4	5046	6	435.6			
5013	6	385.0	5047	6	437.2	5080	6	487.8
5014	6	386.5	5048	6	438.7	5081	6	489.4
5015	6	388.0	5049	6	440.3	5082	6	490.9
5016	6	389.5				5083	6	492.5
5017	6	391.1	5050	6	441.8	5084	6	494.0
5018	6	392.6	5051	6	443.4	5085	6	495.6
5019	6	394.1	5052	6	444.9	5086	6	497.2
			5053	6	446.4	5087	6	498.7
5020	6	395.6	5054	6	448.0	5088	6	500.3
5021	6	397.2	5055	6	449.5	5089	6	501.8
5022	6	398.7	5056	6	451.1			
5023	6	400.2	5057	6	452.6	5090	6	503.4
5024	6	401.8	5058	6	454.2	5091	6	504.9
5025	6	403.3	5059	6	455.7	5092	6	506.5
5026	6	404.8				5093	6	508.0
5027	6	406.4	5060	6	457.2	5094	6	509.6
5028	6	407.9	5061	6	458.8	5095	6	511.1
5029	6	409.5	5062	6	460.3	5096	6	512.7
			5063	6	461.8	5097	6	514.3
5030	6	411.0	5064	6	463.4	5098	6	515.8
5031	6	412.5	5065	6	464.9	5099	6	517.4
5032	6	414.1	5066	6	466.4			
5033	6	415.6	5067	6	467.9	5100	6	518.9

Use check point at 5000 Kc

Frequency: 4900–5000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
4900	6	212.6	4934	6	264.3	4968	6	316.1
4901	6	214.1	4935	6	265.9	4969	6	317.7
4902	6	215.6	4936	6	267.4			
4903	6	217.2	4937	6	268.9	4970	6	319.2
4904	6	218.7	4938	6	270.4	4971	6	320.7
4905	6	220.2	4939	6	272.0	4972	6	322.2
4906	6	221.7				4973	6	323.8
4907	6	223.2	4940	6	273.5	4974	6	325.3
4908	6	224.7	4941	6	275.0	4975	6	326.8
4909	6	226.3	4942	6	276.5	4976	6	328.4
			4943	6	278.1	4977	6	329.9
4910	6	227.8	4944	6	279.6	4978	6	331.4
4911	6	229.3	4945	6	281.1	4979	6	333.0
4912	6	230.8	4946	6	282.6			
4913	6	232.3	4947	6	284.1	4980	6	334.5
4914	6	233.9	4948	6	285.7	4981	6	336.0
4915	6	235.4	4949	6	287.2	4982	6	337.5
4916	6	236.9				4983	6	339.1
4917	6	238.4	4950	6	288.7	4984	6	340.6
4918	6	239.9	4951	6	290.2	4985	6	342.2
4919	6	241.4	4952	6	291.7	4986	6	343.7
			4953	6	293.3	4987	6	345.2
4920	6	243.0	4954	6	294.8	4988	6	346.8
4921	6	244.5	4955	6	296.3	4989	6	348.3
4922	6	246.0	4956	6	297.8			
4923	6	247.5	4957	6	299.3	4990	6	349.8
4924	6	249.1	4958	6	300.9	4991	6	351.4
4925	6	250.6	4959	6	302.4	4992	6	352.9
4926	6	252.1				4993	6	354.4
4927	6	253.6	4960	6	303.9	4994	6	356.0
4928	6	255.2	4961	6	305.4	4995	6	357.5
4929	6	256.7	4962	6	307.0	4996	6	359.0
			4963	6	308.5	4997	6	360.6
4930	6	258.2	4964	6	310.0	4998	6	362.1
4931	6	259.8	4965	6	311.5	4999	6	363.6
4932	6	261.3	4966	6	313.1			
4933	6	262.8	4967	6	314.6	**5000**	**6**	**365.2**

Use check point at 5000 Kc

Frequency: 5100–5200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
5100	6	518.9	5134	6	571.3	5168	6	623.9
5101	6	520.5	5135	6	572.9	5169	6	625.5
5102	6	522.0	5136	6	574.4			
5103	6	523.5	5137	6	576.0	5170	6	627.0
5104	6	525.1	5138	6	577.5	5171	6	628.6
5105	6	526.6	5139	6	579.0	5172	6	630.1
5106	6	528.2				5173	6	631.7
5107	6	529.7	5140	6	580.6	5174	6	633.2
5108	6	531.2	5141	6	582.1	5175	6	634.8
5109	6	532.8	5142	6	583.7	5176	6	636.3
			5143	6	585.2	5177	6	637.9
5110	6	534.3	5144	6	586.8	5178	6	639.4
5111	6	535.9	5145	6	588.3	5179	6	641.0
5112	6	537.4	5146	6	589.9			
5113	6	538.9	5147	6	591.4	5180	6	642.5
5114	6	540.5	5148	6	593.0	5181	6	644.0
5115	6	542.0	5149	6	594.5	5182	6	645.6
5116	6	543.6				5183	6	647.1
5117	6	545.1	5150	6	596.1	5184	6	648.7
5118	6	546.6	5151	6	597.6	5185	6	650.2
5119	6	548.2	5152	6	599.2	5186	6	651.8
			5153	6	600.7	5187	6	653.3
5120	6	549.7	5154	6	602.3	5188	6	654.9
5121	6	551.3	5155	6	603.8	5189	6	656.4
5122	6	552.8	5156	6	605.4			
5123	6	554.3	5157	6	606.9	5190	6	658.0
5124	6	555.9	5158	6	608.5	5191	6	659.5
5125	6	557.4	5159	6	610.0	5192	6	661.1
5126	6	559.0				5193	6	662.6
5127	6	560.5	5160	6	611.6	5194	6	664.1
5128	6	562.1	5161	6	613.1	5195	6	665.7
5129	6	563.6	5162	6	614.7	5156	6	667.2
			5163	6	616.2	5197	6	668.8
5130	6	565.2	5164	6	617.8	5198	6	670.3
5131	6	566.7	5165	6	619.3	5199	6	671.9
5132	6	568.2	5166	6	620.9			
5133	6	569.8	5167	6	622.4	**5200**	**6**	**673.4**

Use check point at 5200 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 6000—6100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6000	**7**	**100.1**	6034	7	142.0	6068	7	183.8
6001	7	101.4	6035	7	143.3	6069	7	185.0
6002	7	102.6	6036	7	144.5			
6003	7	103.8	6037	7	145.7	6070	7	186.2
6004	7	105.1	6038	7	147.0	6071	7	187.4
6005	7	106.3	6039	7	148.2	6072	7	188.7
6006	7	107.5				6073	7	189.9
6007	7	108.8	6040	7	149.4	6074	7	191.1
6008	7	110.0	6041	7	150.6	6075	7	192.3
6009	7	111.2	6042	7	151.9	6076	7	193.6
			6043	7	153.1	6077	7	194.8
6010	7	112.5	6044	7	154.3	6078	7	196.0
6011	7	113.7	6045	7	155.6	6079	7	197.2
6012	7	114.9	6046	7	156.8			
6013	7	116.2	6047	7	158.0	6080	7	198.5
6014	7	117.4	6048	7	159.2	6081	7	199.7
6015	7	118.6	6049	7	160.5	6082	7	200.9
6016	7	119.9				6083	7	202.1
6017	7	121.1	6050	7	161.7	6084	7	203.3
6018	7	122.3	6051	7	162.9	6085	7	204.6
6019	7	123.6	6052	7	164.1	6086	7	205.8
			6053	7	165.4	6087	7	207.0
6020	7	124.8	6054	7	166.6	6088	7	208.2
6021	7	126.0	6055	7	167.8	6089	7	209.5
6022	7	127.3	6056	7	169.1			
6023	7	128.5	6057	7	170.3	6090	7	210.7
6024	7	129.7	6058	7	171.5	6091	7	211.9
6025	7	131.0	6059	7	172.7	6092	7	213.1
6026	7	132.2				6093	7	214.4
6027	7	133.4	6060	7	174.0	6094	7	215.6
6028	7	134.7	6061	7	175.2	6095	7	216.8
6029	7	135.9	6062	7	176.4	6096	7	218.0
			6063	7	177.6	6097	7	219.3
6030	7	137.1	6064	7	178.9	6098	7	220.5
6031	7	138.4	6065	7	180.1	6099	7	221.7
6032	7	139.6	6066	7	181.3			
6033	7	140.8	6067	7	182.5	6100	7	222.9

Use check point at 6000 Kc

Frequency: 6100—6200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6100	7	222.9	6134	7	264.6	6168	7	306.5
6101	7	224.2	6135	7	265.9	6169	7	307.7
6102	7	225.4	6136	7	267.1			
6103	7	226.6	6137	7	268.3	6170	7	308.9
6104	7	227.8	6138	7	269.6	6171	7	310.2
6105	7	229.1	6139	7	270.8	6172	7	311.4
6106	7	230.3				6173	7	312.6
6107	7	231.5	6140	7	272.0	6174	7	313.8
6108	7	232.7	6141	7	273.2	6175	7	315.1
6109	7	234.0	6142	7	274.5	6176	7	316.3
			6143	7	275.7	6177	7	317.5
6110	7	235.2	6144	7	276.9	6178	7	318.8
6111	7	236.4	6145	7	278.2	6179	7	320.0
6112	7	237.6	6146	7	279.4			
6113	7	238.9	6147	7	280.6	6180	7	321.2
6114	7	240.1	6148	7	281.8	6181	7	322.5
6115	7	241.3	6149	7	283.1	6182	7	323.7
6116	7	242.5				6183	7	324.9
6117	7	243.8	6150	7	284.3	6184	7	326.2
6118	7	245.0	6151	7	285.5	6185	7	327.4
6119	7	246.2	6152	7	286.8	6186	7	328.6
			6153	7	288.0	6187	7	329.8
6120	7	247.4	6154	7	289.2	6188	7	331.1
6121	7	248.7	6155	7	290.5	6189	7	332.3
6122	7	249.9	6156	7	291.7			
6123	7	251.1	6157	7	292.9	6190	7	333.5
6124	7	252.4	6158	7	294.2	6191	7	334.8
6125	7	253.6	6159	7	295.4	6192	7	336.0
6126	7	254.8				6193	7	337.2
6127	7	256.0	6160	7	296.6	6194	7	338.5
6128	7	257.3	6161	7	297.8	6195	7	339.7
6129	7	258.5	6162	7	299.1	6196	7	340.9
			6163	7	300.3	6197	7	342.1
6130	7	259.7	6164	7	301.5	6198	7	343.4
6131	7	261.0	6165	7	302.8	6199	7	344.6
6132	7	262.2	6166	7	304.0			
6133	7	263.4	6167	7	305.2	6200	7	345.8

Use check point at 6000 or 6300 Kc, whichever is nearer

Frequency: 6200—6300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6200	7	345.8	6234	7	387.7	6268	7	429.9
6201	7	347.1	6235	7	388.9	6269	7	431.1
6202	7	348.3	6236	7	390.1			
6203	7	349.5	6237	7	391.4	6270	7	432.3
6204	7	350.8	6238	7	392.6	6271	7	433.6
6205	7	352.0	6239	7	393.8	6272	7	434.8
6206	7	353.2				6273	7	436.1
6207	7	354.4	6240	7	395.1	6274	7	437.3
6208	7	355.7	6241	7	396.3	6275	7	438.5
6209	7	356.9	6242	7	397.5	6276	7	439.8
			6243	7	398.8	6277	7	441.0
6210	7	358.1	6244	7	400.0	6278	7	442.3
6211	7	359.4	6245	7	401.3	6279	7	443.5
6212	7	360.6	6246	7	402.5			
6213	7	361.8	6247	7	403.8	6280	7	444.8
6214	7	363.1	6248	7	405.0	6281	7	446.0
6215	7	364.3	6249	7	406.2	6282	7	447.2
6216	7	365.5				6283	7	448.5
6217	7	366.8	6250	7	407.5	6284	7	449.7
6218	7	368.0	6251	7	408.7	6285	7	451.0
6219	7	369.2	6252	7	410.0	6286	7	452.2
			6253	7	411.2	6287	7	453.4
6220	7	370.4	6254	7	412.5	6288	7	454.7
6221	7	371.7	6255	7	413.7	6289	7	455.9
6222	7	372.9	6256	7	414.9			
6223	7	374.1	6257	7	416.2	6290	7	457.2
6224	7	375.4	6258	7	417.4	6291	7	458.4
6225	7	376.6	6259	7	418.7	6292	7	459.6
6226	7	377.8				6293	7	460.9
6227	7	379.1	6260	7	419.9	6294	7	462.1
6228	7	380.3	6261	7	421.2	6295	7	463.4
6229	7	381.5	6262	7	422.4	6296	7	464.6
			6263	7	423.6	6297	7	465.9
6230	7	382.8	6264	7	424.9	6298	7	467.1
6231	7	384.0	6265	7	426.1	6299	7	468.3
6232	7	385.2	6266	7	427.4			
6233	7	386.4	6267	7	428.6	**6300**	**7**	**469.6**

Use check point at 6300 Kc

Frequency: 6300—6400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6300	**7**	**469.6**	6334	7	511.7	6368	7	554.1
6301	7	470.8	6335	7	513.0	6369	7	555.3
6302	7	472.0	6336	7	514.2			
6303	7	473.3	6337	7	515.4	6370	7	556.6
6304	7	474.5	6338	7	516.7	6371	7	557.8
6305	7	475.8	6339	7	517.9	6372	7	559.0
6306	7	477.0				6373	7	560.3
6307	7	478.2	6340	7	519.2	6374	7	561.5
6308	7	479.5	6341	7	520.4	6375	7	562.8
6309	7	480.7	6342	7	521.7	6376	7	564.0
			6343	7	522.9	6377	7	565.3
6310	7	482.0	6344	7	524.2	6378	7	566.5
6311	7	483.2	6345	7	525.4	6379	7	567.7
6312	7	484.4	6346	7	526.7			
6313	7	485.7	6347	7	527.9	6380	7	569.0
6314	7	486.9	6348	7	529.2	6381	7	570.2
6315	7	488.1	6349	7	530.4	6382	7	571.5
6316	7	489.4				6383	7	572.7
6317	7	490.6	6350	7	531.7	6384	7	574.0
6318	7	491.9	6351	7	532.9	6385	7	575.2
6319	7	493.1	6352	7	534.2	6386	7	576.4
			6353	7	535.4	6387	7	577.7
6320	7	494.3	6354	7	536.6	6388	7	578.9
6321	7	495.6	6355	7	537.9	6389	7	580.2
6322	7	496.8	6356	7	539.1			
6323	7	498.1	6357	7	540.4	6390	7	581.4
6324	7	499.3	6358	7	541.6	6391	7	582.7
6325	7	500.5	6359	7	542.9	6392	7	583.9
6326	7	501.8				6393	7	585.2
6327	7	503.0	6360	7	544.1	6394	7	586.4
6328	7	504.2	6361	7	545.4	6395	7	587.7
6329	7	505.5	6362	7	546.6	6396	7	588.9
			6363	7	547.9	6397	7	590.1
6330	7	506.7	6364	7	549.1	6398	7	591.4
6331	7	508.0	6365	7	550.3	6399	7	592.6
6332	7	509.2	6366	7	551.6			
6333	7	510.5	6367	7	552.8	6400	7	593.9

Use check point at 6300 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 5600—5700 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
5600	**6**	**1285.3**	5634	6	1336.9	5668	6	1388.4
5601	6	1286.8	5635	6	1338.4	5669	6	1389.9
5602	6	1288.3	5636	6	1339.9			
5603	6	1289.9	5637	6	1341.4	5670	6	1391.4
5604	6	1291.4	5638	6	1342.9	5671	6	1393.0
5605	6	1292.9	5639	6	1344.4	5672	6	1394.5
5606	6	1294.4				5573	6	1396.0
5607	6	1295.9	5640	6	1346.0	5674	6	1397.5
5608	6	1297.4	5641	6	1347.5	5675	6	1399.0
5609	6	1299.0	5642	6	1349.0	5676	6	1400.5
			5643	6	1350.5	5677	6	1402.1
5610	6	1300.5	5644	6	1352.0	5678	6	1403.6
5611	6	1302.0	5645	6	1353.5	5679	6	1405.1
5612	6	1303.5	5646	6	1355.1			
5613	6	1305.0	5647	6	1356.6	5680	6	1406.6
5614	6	1306.6	5648	6	1358.1	5681	6	1408.1
5615	6	1308.1	5649	6	1359.6	5682	6	1409.6
5616	6	1309.6				5683	6	1411.2
5617	6	1311.1	5650	6	1361.1	5684	6	1412.7
5618	6	1312.6	5651	6	1362.6	5685	6	1414.2
5619	6	1314.1	5652	6	1364.2	5686	6	1415.7
			5653	6	1365.7	5687	6	1417.3
5620	6	1315.7	5654	6	1367.2	5688	6	1418.8
5621	6	1317.2	5655	6	1368.7	5689	6	1420.3
5622	6	1318.7	5656	6	1370.2			
5623	6	1320.2	5657	6	1371.7	5690	6	1421.8
5624	6	1321.7	5658	6	1373.2	5691	6	1423.4
5625	6	1323.2	5659	6	1374.8	5692	6	1424.9
5626	6	1324.8				5693	6	1426.4
5627	6	1326.3	5660	6	1376.3	5694	6	1427.9
5628	6	1327.8	5661	6	1377.8	5695	6	1429.4
5629	6	1329.3	5662	6	1379.3	5696	6	1431.0
			5663	6	1380.8	5697	6	1432.5
5630	6	1330.8	5664	6	1382.3	5698	6	1434.0
5631	6	1332.3	5665	6	1383.9	5699	6	1435.5
5632	6	1333.8	5666	6	1385.4			
5633	6	1335.4	5667	6	1386.9	5700	6	1437.1

Use check point at 5600 Kc

Frequency: 5700—5800 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
5700	6	1437.1	5734	6	1488.9	5768	6	1540.9
5701	6	1438.6	5735	6	1490.4	5769	6	1542.5
5702	6	1440.1	5736	6	1491.9			
5703	6	1441.6	5737	6	1493.5	5770	6	1544.0
5704	6	1443.2	5738	6	1495.0	5771	6	1545.5
5705	6	1444.7	5739	6	1496.5	5772	6	1547.0
5706	6	1446.2				5773	6	1548.6
5707	6	1447.8	5740	6	1498.0	5774	6	1550.1
5708	6	1449.3	5741	6	1499.6	5775	6	1551.6
5709	6	1450.8	5742	6	1501.1	5776	6	1553.2
			5743	6	1502.6	5777	6	1554.7
5710	6	1452.4	5744	6	1504.2	5778	6	1556.2
5711	6	1453.9	5745	6	1505.7	5779	6	1557.8
5712	6	1455.4	5746	6	1507.2			
5713	6	1456.9	5747	6	1508.8	5780	6	1559.3
5714	6	1458.5	5748	6	1510.3	5781	6	1560.8
5715	6	1460.0	5749	6	1511.8	5782	6	1562.4
5716	6	1461.5				5783	6	1563.9
5717	6	1463.1	5750	6	1513.4	5784	6	1565.4
5718	6	1464.6	5751	6	1514.9	5785	6	1567.0
5719	6	1466.1	5752	6	1516.4	5786	6	1568.5
			5753	6	1517.9	5787	6	1570.1
5720	6	1467.6	5754	6	1519.5	5788	6	1571.6
5721	6	1469.2	5755	6	1521.0	5789	6	1573.1
5722	6	1470.7	5756	6	1522.5			
5723	6	1472.2	5757	6	1524.1	5790	6	1574.7
5724	6	1473.7	5758	6	1525.6	5791	6	1576.2
5725	6	1475.2	5759	6	1527.1	5792	6	1577.8
5726	6	1476.8				5793	6	1579.3
5727	6	1478.3	5760	6	1528.7	5794	6	1580.8
5728	6	1479.8	5761	6	1530.2	5795	6	1582.4
5729	6	1481.3	5762	6	1531.7	5796	6	1583.9
			5763	6	1533.3	5797	6	1585.5
5730	6	1482.8	5764	6	1534.8	5798	6	1587.0
5731	6	1484.3	5765	6	1536.3	5799	6	1588.5
5732	6	1485.9	5766	6	1537.9			
5733	6	1487.4	5767	6	1539.4	**5800**	**6**	**1590.1**

Use check point at 5800 Kc

Frequency: 5800—5900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
5800	**6**	**1590.1**	5834	6	1642.9	5868	6	1696.2
5801	6	1591.6	5835	6	1644.5	5869	6	1697.8
5802	6	1593.2	5836	6	1646.0			
5803	6	1594.7	5837	6	1647.6	5870	6	1699.3
5804	6	1596.3	5838	6	1649.1	5871	6	1700.9
5805	6	1597.8	5839	6	1650.7	5872	6	1702.5
5806	6	1599.4				5873	6	1704.1
5807	6	1600.9	5840	6	1652.3	5874	6	1705.7
5808	6	1602.5	5841	6	1653.8	5875	6	1707.2
5809	6	1604.0	5842	6	1655.4	5876	6	1708.8
			5843	6	1657.0	5877	6	1710.4
5810	6	1605.6	5844	6	1658.5	5878	6	1712.0
5811	6	1607.1	5845	6	1660.1	5879	6	1713.5
5812	6	1608.7	5846	6	1661.7			
5813	6	1610.2	5847	6	1663.2	5880	6	1715.1
5814	6	1611.8	5848	6	1664.8	5881	6	1716.7
5815	6	1613.3	5849	6	1666.3	5882	6	1718.3
5816	6	1614.9				5883	6	1719.9
5817	6	1616.4	5850	6	1667.9	5884	6	1721.5
5818	6	1618.0	5851	6	1669.5	5885	6	1723.0
5819	6	1619.5	5852	6	1671.0	5886	6	1724.6
			5853	6	1672.6	5887	6	1726.2
5820	6	1621.1	5854	6	1674.2	5888	6	1727.8
5821	6	1622.6	5855	6	1675.7	5889	6	1729.4
5822	6	1624.2	5856	6	1677.3			
5823	6	1625.7	5857	6	1678.9	5890	6	1731.0
5824	6	1627.3	5858	6	1680.4	5891	6	1732.5
5825	6	1628.9	5859	6	1682.0	5892	6	1734.1
5826	6	1630.4				5893	6	1735.7
5827	6	1632.0	5860	6	1683.6	5894	6	1737.3
5828	6	1633.5	5861	6	1685.1	5895	6	1738.9
5829	6	1635.1	5862	6	1686.7	5896	6	1740.5
			5863	6	1688.3	5897	6	1742.0
5830	6	1636.7	5864	6	1689.9	5898	6	1743.6
5831	6	1638.2	5865	6	1691.5	5899	6	1745.2
5832	6	1639.8	5866	6	1693.0			
5833	6	1641.3	5867	6	1694.6	5900	6	1746.8

Use check point at 5800 Kc

Frequency: 5900—6000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
5900	6	1746.8	5934	6	1801.5	5968	6	1856.9
5901	6	1748.4	5935	6	1803.1	5969	6	1858.6
5902	6	1750.0	5936	6	1804.7			
5903	6	1751.6	5937	6	1806.3	5970	6	1860.2
5904	6	1753.2	5938	6	1808.0	5971	6	1861.9
5905	6	1754.8	5939	6	1809.6	5972	6	1863.5
5906	6	1756.4				5973	6	1865.2
5907	6	1758.0	5940	6	1811.2	5974	6	1866.8
5908	6	1759.6	5941	6	1812.8	5975	6	1868.5
5909	6	1761.2	5942	6	1814.4	5976	6	1870.1
			5943	6	1816.1	5977	6	1871.8
5910	6	1762.8	5944	6	1817.7	5978	6	1873.5
5911	6	1764.4	5945	6	1819.3	5979	6	1875.1
5912	6	1766.0	5946	6	1820.9			
5913	6	1767.7	5947	6	1822.6	5980	6	1876.8
5914	6	1769.3	5948	6	1824.2	5981	6	1878.4
5915	6	1770.9	5949	6	1825.8	5982	6	1880.1
5916	6	1772.5				5983	6	1881.7
5917	6	1774.1	5950	6	1827.4	5984	6	1883.4
5918	6	1775.7	5951	6	1829.1	5985	6	1885.1
5919	6	1777.3	5952	6	1830.7	5986	6	1886.7
			5953	6	1832.3	5987	6	1888.4
5920	6	1778.9	5954	6	1833.9	5988	6	1890.1
5921	6	1780.5	5955	6	1835.6	5989	6	1891.7
5922	6	1782.1	5956	6	1837.2			
5923	6	1783.7	5957	6	1838.8	5990	6	1893.4
5924	6	1785.3	5958	6	1840.4	5991	6	1895.0
5925	6	1787.0	5959	6	1842.1	5992	6	1896.7
5926	6	1788.6				5993	6	1898.4
5927	6	1790.2	5960	6	1843.7	5994	6	1900.0
5928	6	1791.8	5961	6	1845.3	5995	6	1901.7
5929	6	1793.4	5962	6	1847.0	5996	6	1903.4
			5963	6	1848.6	5997	6	1905.0
5930	6	1795.0	5964	6	1850.3	5998	6	1906.7
5931	6	1796.6	5965	6	1852.0	5999	6	1908.3
5932	6	1798.3	5966	6	1853.6			
5933	6	1799.9	5967	6	1855.3	**6000**	**6**	**1910.0**

Use check point at 6000 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 6800–6900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6800	7	1089.7	6834	7	1131.3	6868	7	1172.8
6801	7	1090.9	6835	7	1132.5	6869	7	1174.0
6802	7	1092.1	6836	7	1133.7			
6803	7	1093.4	6837	7	1134.9	6870	7	1175.2
6804	7	1094.6	6838	7	1136.2	6871	7	1176.4
6805	7	1095.8	6839	7	1137.4	6872	7	1177.7
6806	7	1097.0				6873	7	1178.9
6807	7	1098.2	6840	7	1138.6	6874	7	1180.1
6808	7	1099.5	6841	7	1139.8	6875	7	1181.3
6809	7	1100.7	6842	7	1141.1	6876	7	1182.5
			6843	7	1142.3	6877	7	1183.8
6810	7	1101.9	6844	7	1143.5	6878	7	1185.0
6811	7	1103.1	6845	7	1144.7	6879	7	1186.2
6812	7	1104.4	6846	7	1145.9			
6813	7	1105.6	6847	7	1147.2	6880	7	1187.4
6814	7	1106.8	6848	7	1148.4	6881	7	1188.6
6815	7	1108.0	6849	7	1149.6	6882	7	1189.9
6816	7	1109.3				6883	7	1191.1
6817	7	1110.5	6850	7	1150.8	6884	7	1192.3
6818	7	1111.7	6851	7	1152.0	6885	7	1193.5
6819	7	1112.9	6852	7	1153.3	6886	7	1194.7
			6853	7	1154.5	6887	7	1195.9
6820	7	1114.1	6854	7	1155.7	6888	7	1197.2
6821	7	1115.4	6855	7	1156.9	6889	7	1198.4
6822	7	1116.6	6856	7	1158.1			
6823	7	1117.8	6857	7	1159.4	6890	7	1199.6
6824	7	1119.0	6858	7	1160.6	6891	7	1200.8
6825	7	1120.3	6859	7	1161.8	6892	7	1202.0
6826	7	1121.5				6893	7	1203.3
6827	7	1122.7	6860	7	1163.0	6894	7	1204.5
6828	7	1123.9	6861	7	1164.2	6895	7	1205.7
6829	7	1125.2	6862	7	1165.5	6896	7	1206.9
			6863	7	1166.7	6897	7	1208.1
6830	7	1126.4	6864	7	1167.9	6898	7	1209.3
6831	7	1127.6	6865	7	1169.1	6899	7	1210.6
6832	7	1128.8	6866	7	1170.3			
6833	7	1130.0	6867	7	1171.6	**6900**	**7**	**1211.8**

Use check point at 6900 Kc

Frequency: 7000–7100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
7000	7	1333.7	7034	7	1375.2	7068	7	1416.7
7001	7	1334.9	7035	7	1376.4	7069	7	1417.9
7002	7	1336.2	7036	7	1377.6			
7003	7	1337.4	7037	7	1378.8	7070	7	1419.1
7004	7	1338.6	7038	7	1380.0	7071	7	1420.3
7005	7	1339.8	7039	7	1381.2	7072	7	1421.6
7006	7	1341.0				7073	7	1422.8
7007	7	1342.3	7040	7	1382.5	7074	7	1424.0
7008	7	1343.5	7041	7	1383.7	7075	7	1425.2
7009	7	1344.7	7042	7	1384.9	7076	7	1426.5
			7043	7	1386.1	7077	7	1427.7
7010	7	1345.9	7044	7	1387.3	7078	7	1428.9
7011	7	1347.1	7045	7	1388.6	7079	7	1430.1
7012	7	1348.4	7046	7	1389.8			
7013	7	1349.6	7047	7	1391.0	7080	7	1431.4
7014	7	1350.8	7048	7	1392.2	7081	7	1432.6
7015	7	1352.0	7049	7	1393.4	7082	7	1433.8
7016	7	1353.2				7083	7	1435.0
7017	7	1354.5	7050	7	1394.6	7084	7	1436.2
7018	7	1355.7	7051	7	1395.9	7085	7	1437.4
7019	7	1356.9	7052	7	1397.1	7086	7	1438.7
			7053	7	1398.3	7087	7	1439.9
7020	7	1358.1	7054	7	1399.5	7088	7	1441.1
7021	7	1359.3	7055	7	1400.8	7089	7	1442.3
7022	7	1360.6	7056	7	1402.0			
7023	7	1361.8	7057	7	1403.2	7090	7	1443.5
7024	7	1363.0	7058	7	1404.4	7091	7	1444.7
7025	7	1364.2	7059	7	1405.7	7092	7	1446.0
7026	7	1365.4				7093	7	1447.2
7027	7	1366.6	7060	7	1406.9	7094	7	1448.4
7028	7	1367.9	7061	7	1408.1	7095	7	1449.6
7029	7	1369.1	7062	7	1409.3	7096	7	1450.8
			7063	7	1410.6	7097	7	1452.0
7030	7	1370.3	7064	7	1411.8	7098	7	1453.3
7031	7	1371.5	7065	7	1413.0	7099	7	1454.5
7032	7	1372.7	7066	7	1414.2			
7033	7	1373.9	7067	7	1415.4	7100	7	1455.7

Use check point at 6900 or 7200 Kc, whichever is nearer

Frequency: 6900–7000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6900	**7**	**1211.8**	6934	7	1253.2	6968	7	1294.6
6901	7	1213.0	6935	7	1254.4	6969	7	1295.8
6902	7	1214.2	6936	7	1255.6			
6903	7	1215.4	6937	7	1256.8	6970	7	1297.1
6904	7	1216.6	6938	7	1258.0	6971	7	1298.3
6905	7	1217.9	6939	7	1259.3	6972	7	1299.5
6906	7	1219.1				6973	7	1300.7
6907	7	1220.3	6940	7	1260.5	6974	7	1302.0
6908	7	1221.5	6941	7	1261.7	6975	7	1303.2
6909	7	1222.7	6942	7	1262.9	6976	7	1304.4
			6943	7	1264.1	6977	7	1305.6
6910	7	1224.0	6944	7	1265.4	6978	7	1306.8
6911	7	1225.2	6945	7	1266.6	6979	7	1308.1
6912	7	1226.4	6946	7	1267.8			
6913	7	1227.6	6947	7	1269.0	6980	7	1309.3
6914	7	1228.8	6948	7	1270.2	6981	7	1310.5
6915	7	1230.0	6949	7	1271.4	6982	7	1311.7
6916	7	1231.3				6983	7	1313.0
6917	7	1232.5	6950	7	1272.7	6984	7	1314.2
6918	7	1233.7	6951	7	1273.9	6985	7	1315.4
6919	7	1234.9	6952	7	1275.1	6986	7	1316.6
			6953	7	1276.3	6987	7	1317.9
6920	7	1236.1	6954	7	1277.5	6988	7	1319.1
6921	7	1237.3	6955	7	1278.8	6989	7	1320.3
6922	7	1238.6	6956	7	1280.0			
6923	7	1239.8	6957	7	1281.2	6990	7	1321.5
6924	7	1241.0	6958	7	1282.4	6991	7	1322.7
6925	7	1242.2	6959	7	1283.6	6992	7	1324.0
6926	7	1243.4				6993	7	1325.2
6927	7	1244.6	6960	7	1284.8	6994	7	1326.4
6928	7	1245.9	6961	7	1286.1	6995	7	1327.6
6929	7	1247.1	6962	7	1287.3	6996	7	1328.8
			6963	7	1288.5	6997	7	1330.1
6930	7	1248.3	6964	7	1289.7	6998	7	1331.3
6931	7	1249.5	6965	7	1291.0	6999	7	1332.5
6932	7	1250.7	6966	7	1292.2			
6933	7	1252.0	6967	7	1293.4	7000	7	1333.7

Use check point at 6900 Kc

Frequency: 7100–7200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
7100	7	1455.7	7134	7	1497.4	7168	7	1539.3
7101	7	1456.9	7135	7	1498.7	7169	7	1540.5
7102	7	1458.1	7136	7	1499.9			
7103	7	1459.3	7137	7	1501.1	7170	7	1541.7
7104	7	1460.6	7138	7	1502.4	7171	7	1543.0
7105	7	1461.8	7139	7	1503.6	7172	7	1544.2
7106	7	1463.0				7173	7	1545.4
7107	7	1464.2	7140	7	1504.8	7174	7	1546.7
7108	7	1465.4	7141	7	1506.1	7175	7	1547.9
7109	7	1466.6	7142	7	1507.3	7176	7	1549.1
			7143	7	1508.5	7177	7	1550.4
7110	7	1467.9	7144	7	1509.8	7178	7	1551.6
7111	7	1469.1	7145	7	1511.0	7179	7	1552.9
7112	7	1470.3	7146	7	1512.2			
7113	7	1471.6	7147	7	1513.4	7180	7	1554.1
7114	7	1472.8	7148	7	1514.7	7181	7	1555.3
7115	7	1474.0	7149	7	1515.9	7182	7	1556.6
7116	7	1475.3				7183	7	1557.8
7117	7	1476.5	7150	7	1517.1	7184	7	1559.1
7118	7	1477.7	7151	7	1518.4	7185	7	1560.3
7119	7	1479.0	7152	7	1519.6	7186	7	1561.5
			7153	7	1520.8	7187	7	1562.8
7120	7	1480.2	7154	7	1522.1	7188	7	1564.0
7121	7	1481.4	7155	7	1523.3	7189	7	1565.2
7122	7	1482.7	7156	7	1524.5			
7123	7	1483.9	7157	7	1525.7	7190	7	1566.5
7124	7	1485.1	7158	7	1527.0	7191	7	1567.7
7125	7	1486.4	7159	7	1528.2	7192	7	1569.0
7126	7	1487.6				7193	7	1570.2
7127	7	1488.8	7160	7	1529.4	7194	7	1571.4
7128	7	1490.0	7161	7	1530.7	7195	7	1572.7
7129	7	1491.3	7162	7	1531.9	7196	7	1573.9
			7163	7	1533.1	7197	7	1575.1
7130	7	1492.5	7164	7	1534.3	7198	7	1576.4
7131	7	1493.7	7165	7	1535.6	7199	7	1577.6
7132	7	1495.0	7166	7	1536.8			
7133	7	1496.2	7167	7	1538.0	**7200**	**7**	**1578.9**

Use check point at 7200 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 6400—6500 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6400	7	593.9	6434	7	636.3	6468	7	678.6
6401	7	595.1	6435	7	637.5	6469	7	679.9
6402	7	596.4	6436	7	638.8			
6403	7	597.6	6437	7	640.0	6470	7	681.1
6404	7	598.9	6438	7	641.3	6471	7	682.4
6405	7	600.1	6439	7	642.5	6472	7	683.6
6406	7	601.4				6473	7	684.9
6407	7	602.6	6440	7	643.8	6474	7	686.1
6408	7	603.9	6441	7	645.0	6475	7	687.4
6409	7	605.1	6442	7	646.3	6476	7	688.6
			6443	7	647.5	6477	7	689.8
6410	7	606.4	6444	7	648.8	6478	7	691.1
6411	7	607.6	6445	7	650.0	6479	7	692.3
6412	7	608.9	6446	7	651.2			
6413	7	610.1	6447	7	652.5	6480	7	693.6
6414	7	611.4	6448	7	653.7	6481	7	694.8
6415	7	612.6	6449	7	655.0	6482	7	696.1
6416	7	613.8				6483	7	697.3
6417	7	615.1	6450	7	656.2	6484	7	698.6
6418	7	616.3	6451	7	657.5	6485	7	699.8
6419	7	617.6	6452	7	658.7	6486	7	701.1
			6453	7	660.0	6487	7	702.3
6420	7	618.8	6454	7	661.2	6488	7	703.6
6421	7	620.1	6455	7	662.5	6489	7	704.8
6422	7	621.3	6456	7	663.7			
6423	7	622.6	6457	7	665.0	6490	7	706.0
6424	7	623.8	6458	7	666.2	6491	7	707.3
6425	7	625.1	6459	7	667.4	6492	7	708.5
6426	7	626.3				6493	7	709.8
6427	7	627.6	6460	7	668.7	6494	7	711.0
6428	7	628.8	6461	7	669.9	6495	7	712.3
6429	7	630.1	6462	7	671.2	6496	7	713.5
			6463	7	672.4	6497	7	714.8
6430	7	631.3	6464	7	673.7	6498	7	716.0
6431	7	632.5	6465	7	674.9	6499	7	717.3
6432	7	633.8	6466	7	676.2			
6433	7	635.0	6467	7	677.4	6500	7	718.5

Use check point at 6300 or 6600 Kc, whichever is nearer

Frequency: 6500—6600 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6500	7	718.5	6534	7	671.0	6568	7	803.2
6501	7	719.8	6535	7	762.2	6569	7	804.4
6502	7	721.0	6536	7	763.5			
6503	7	722.2	6537	7	764.7	6570	7	805.7
6504	7	723.5	6538	7	766.0	6571	7	806.9
6505	7	724.7	6539	7	767.2	6572	7	808.2
6506	7	726.0				6573	7	809.4
6507	7	727.2	6540	7	768.5	6574	7	810.7
6508	7	728.5	6541	7	769.7	6575	7	811.9
6509	7	729.7	6542	7	770.9	6576	7	813.1
			6543	7	772.2	6577	7	814.4
6510	7	731.0	6544	7	773.4	6578	7	815.6
6511	7	732.2	6545	7	774.7	6579	7	816.9
6512	7	733.5	6546	7	775.9			
6513	7	734.7	6547	7	777.1	6580	7	818.1
6514	7	736.0	6548	7	778.4	6581	7	819.4
6515	7	737.2	6549	7	779.6	6582	7	820.6
6516	7	738.5				6583	7	821.9
6517	7	739.7	6550	7	780.9	6584	7	823.1
6518	7	741.0	6551	7	782.1	6585	7	824.3
6519	7	742.2	6552	7	783.3	6586	7	825.6
			6553	7	784.6	6587	7	826.8
6520	7	743.5	6554	7	785.8	6588	7	828.1
6521	7	744.7	6555	7	787.1	6589	7	829.3
6522	7	746.0	6556	7	788.3			
6523	7	747.2	6557	7	789.6	6590	7	830.6
6524	7	748.5	6558	7	790.8	6591	7	831.8
6525	7	749.7	6559	7	792.0	6592	7	833.0
6526	7	751.0				6593	7	834.3
6527	7	752.2	6560	7	793.3	6594	7	835.5
6528	7	753.5	6561	7	794.5	6595	7	836.8
6529	7	754.7	6562	7	795.8	6596	7	838.0
			6563	7	797.0	6597	7	839.3
6530	7	756.0	6564	7	798.2	6598	7	840.5
6531	7	757.2	6565	7	799.5	6599	7	841.8
6532	7	758.5	6566	7	800.7			
6533	7	759.7	6567	7	802.0	**6600**	**7**	**843.0**

Use check point at 6600 Kc

Frequency: 6600—6700 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6600	**7**	**843.0**	6634	7	885.1	6668	7	927.1
6601	7	844.2	6635	7	886.3	6669	7	928.4
6602	7	845.4	6636	7	887.5			
6603	7	846.7	6637	7	888.8	6670	7	929.6
6604	7	847.9	6638	7	890.0	6671	7	930.8
6605	7	849.2	6639	7	891.3	6672	7	932.1
6606	7	850.4				6673	7	933.3
6607	7	851.7	6640	7	892.5	6674	7	934.6
6608	7	852.9	6641	7	893.7	6675	7	935.8
6609	7	854.1	6642	7	895.0	6676	7	937.0
			6643	7	896.2	6677	7	938.3
6610	7	855.4	6644	7	897.4	6678	7	939.5
6611	7	856.6	6645	7	898.7	6679	7	940.7
6612	7	857.8	6646	7	899.9			
6613	7	859.1	6647	7	901.2	6680	7	942.0
6614	7	860.3	6648	7	902.4	6681	7	943.2
6615	7	861.6	6649	7	903.6	6682	7	944.4
6616	7	862.8				6683	7	945.7
6617	7	864.0	6650	7	904.9	6684	7	946.9
6618	7	865.3	6651	7	906.1	6685	7	948.2
6619	7	866.5	6652	7	907.3	6686	7	949.4
			6653	7	908.6	6687	7	950.6
6620	7	867.7	6654	7	909.8	6688	7	951.9
6621	7	869.0	6655	7	911.1	6689	7	953.1
6622	7	870.2	6656	7	912.3			
6623	7	871.5	6657	7	913.5	6690	7	954.3
6624	7	872.7	6658	7	914.8	6691	7	955.6
6625	7	873.9	6659	7	916.0	6692	7	956.8
6626	7	875.2				6693	7	958.0
6627	7	876.4	6660	7	917.2	6694	7	959.3
6628	7	877.6	6661	7	918.5	6695	7	960.5
6629	7	878.9	6662	7	919.7	6696	7	961.7
			6663	7	921.0	6697	7	963.0
6630	7	880.1	6664	7	922.2	6698	7	964.2
6631	7	881.4	6665	7	923.4	6699	7	965.4
6632	7	882.6	6666	7	924.7			
6633	7	883.8	6667	7	925.9	6700	7	966.6

Use check point at 6600 Kc

Frequency: 6700—6800 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
6700	7	966.6	6734	7	1008.5	6768	7	1050.5
6701	7	967.9	6735	7	1009.8	6769	7	1051.7
6702	7	969.1	6736	7	1011.0			
6703	7	970.3	6737	7	1012.2	6770	7	1052.9
6704	7	971.6	6738	7	1013.5	6771	7	1054.2
6705	7	972.8	6739	7	1014.7	6772	7	1055.4
6706	7	974.0				6773	7	1056.6
6707	7	975.3	6740	7	1015.9	6774	7	1057.9
6708	7	976.5	6741	7	1017.2	6775	7	1059.1
6709	7	977.7	6742	7	1018.4	6776	7	1060.3
			6743	7	1019.6	6777	7	1061.6
6710	7	978.9	6744	7	1020.9	6778	7	1062.8
6711	7	980.2	6745	7	1022.1	6779	7	1064.0
6712	7	981.4	6746	7	1023.3			
6713	7	982.6	6747	7	1024.6	6780	7	1065.3
6714	7	983.9	6748	7	1025.8	6781	7	1066.5
6715	7	985.1	6749	7	1027.0	6782	7	1067.7
6716	7	986.3				6783	7	1068.9
6717	7	987.6	6750	7	1028.3	6784	7	1070.1
6718	7	988.8	6751	7	1029.5	6785	7	1071.4
6719	7	990.0	6752	7	1030.7	6786	7	1072.6
			6753	7	1032.0	6787	7	1073.8
6720	7	991.2	6754	7	1033.2	6788	7	1075.0
6721	7	992.5	6755	7	1034.4	6789	7	1076.3
6722	7	993.7	6756	7	1035.7			
6723	7	994.9	6757	7	1036.9	6790	7	1077.5
6724	7	996.2	6758	7	1038.1	6791	7	1078.7
6725	7	997.4	6759	7	1039.4	6792	7	1079.9
6726	7	998.6				6793	7	1081.1
6727	7	999.9	6760	7	1040.6	6794	7	1082.4
6728	7	1001.1	6761	7	1041.8	6795	7	1083.6
6729	7	1002.3	6762	7	1043.1	6796	7	1084.8
			6763	7	1044.3	6797	7	1086.0
6730	7	1003.6	6764	7	1045.5	6798	7	1087.3
6731	7	1004.8	6765	7	1046.8	6799	7	1088.5
6732	7	1006.0	6766	7	1048.0			
6733	7	1007.3	6767	7	1049.2	6800	7	1089.7

Use check point at 6600 or 6900 Kc, whichever is nearer

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 7600—7700 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
7600	8	467.4	7634	8	502.3	7668	8	537.4
7601	8	468.5	7635	8	503.4	7669	8	538.4
7602	8	469.5	7636	8	504.4			
7603	8	470.5	7637	8	505.4	7670	8	539.5
7604	8	471.5	7638	8	506.5	7671	8	540.5
7605	8	472.5	7639	8	507.5	7672	8	541.5
7606	8	473.5				7673	8	542.5
7607	8	474.6	7640	8	508.6	7674	8	543.6
7608	8	475.6	7641	8	509.6	7675	8	544.6
7609	8	476.6	7642	8	510.6	7676	8	545.6
			7643	8	511.7	7677	8	546.6
7610	8	477.6	7644	8	512.7	7678	8	547.7
7611	8	478.6	7645	8	513.7	7679	8	548.7
7612	8	479.7	7646	8	514.8			
7613	8	480.7	7647	8	515.8	7680	8	549.7
7614	8	481.7	7648	8	516.8	7681	8	550.7
7615	8	482.7	7649	8	517.9	7682	8	551.8
7616	8	483.7				7683	8	552.8
7617	8	484.8	7650	8	518.9	7684	8	553.8
7618	8	485.8	7651	8	519.9	7685	8	554.9
7619	8	486.8	7652	8	521.0	7686	8	555.9
			7653	8	522.0	7687	8	556.9
7620	8	487.8	7654	8	523.0	7688	8	557.9
7621	8	488.9	7655	8	524.1	7689	8	559.0
7622	8	489.9	7656	8	525.1			
7623	8	490.9	7657	8	526.1	7690	8	560.0
7624	8	492.0	7658	8	527.1	7691	8	561.0
7625	8	493.0	7659	8	528.2	7692	8	562.1
7626	8	494.0				7693	8	563.1
7627	8	495.1	7660	8	529.2	7694	8	564.1
7628	8	496.1	7661	8	530.2	7695	8	565.2
7629	8	497.2	7662	8	531.2	7696	8	566.2
			7663	8	532.3	7697	8	567.2
7630	8	498.2	7664	8	533.3	7698	8	568.2
7631	8	499.2	7665	8	534.3	7699	8	569.3
7632	8	500.3	7666	8	535.3			
7633	8	501.3	7667	8	536.4	7700	8	570.3

Use check point at 7500 or 7800 Kc, whichever is nearer

Frequency: 7700—7800 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
7700	8	570.3	7734	8	605.4	7768	8	640.4
7701	8	571.3	7735	8	606.4	7769	8	641.5
7702	8	572.4	7736	8	607.4			
7703	8	573.4	7737	8	608.5	7770	8	642.5
7704	8	574.4	7738	8	609.5	7771	8	643.5
7705	8	575.4	7739	8	610.5	7772	8	644.6
7706	8	576.5				7773	8	645.6
7707	8	577.5	7740	8	611.6	7774	8	646.6
7708	8	578.5	7741	8	612.6	7775	8	647.7
7709	8	579.6	7742	8	613.6	7776	8	648.7
			7743	8	614.7	7777	8	649.7
7710	8	580.6	7744	8	615.7	7778	8	650.7
7711	8	581.6	7745	8	616.7	7779	8	651.8
7712	8	582.6	7746	8	617.8			
7713	8	583.7	7747	8	618.8	7780	8	652.8
7714	8	584.7	7748	8	619.8	7781	8	653.8
7715	8	585.7	7749	8	620.9	7782	8	654.9
7716	8	586.8				7783	8	655.9
7717	8	587.8	7750	8	621.9	7784	8	656.9
7718	8	588.8	7751	8	622.9	7785	8	658.0
7719	8	589.9	7752	8	623.9	7786	8	659.0
			7753	8	625.0	7787	8	660.0
7720	8	590.9	7754	8	626.0	7788	8	661.1
7721	8	591.9	7755	8	627.0	7789	8	662.1
7722	8	593.0	7756	8	628.1			
7723	8	594.0	7757	8	629.1	7790	8	663.1
7724	8	595.0	7758	8	630.1	7791	8	664.1
7725	8	596.1	7759	8	631.2	7792	8	665.2
7726	8	597.1				7793	8	666.2
7727	8	598.1	7760	8	632.2	7794	8	667.2
7728	8	599.2	7761	8	633.2	7795	8	668.3
7729	8	600.2	7762	8	634.3	7796	8	669.3
			7763	8	635.3	7797	8	670.3
7730	8	601.2	7764	8	636.3	7798	8	671.4
7731	8	602.3	7765	8	637.3	7799	8	672.4
7732	8	603.3	7766	8	638.4			
7733	8	604.3	7767	8	639.4	**7800**	**8**	**673.4**

Use check point at 7800 Kc

Frequency: 7800—7900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
7800	**8**	**673.4**	7834	8	708.4	7868	8	743.4
7801	8	674.4	7835	8	709.4	7869	8	744.5
7802	8	675.5	7836	8	710.4			
7803	8	676.5	7837	8	711.5	7870	8	745.5
7804	8	677.5	7838	8	712.5	7871	8	746.5
7805	8	678.6	7839	8	713.5	7872	8	747.5
7806	8	679.6				7873	8	748.6
7807	8	680.6	7840	8	714.6	7874	8	749.6
7808	8	681.6	7841	8	715.6	7875	8	750.6
7809	8	682.7	7842	8	716.6	7876	8	751.6
			7843	8	717.7	7877	8	752.7
7810	8	683.7	7844	8	718.7	7878	8	753.7
7811	8	684.7	7845	8	719.8	7879	8	754.7
7812	8	685.7	7846	8	720.8			
7813	8	686.8	7847	8	721.8	7880	8	755.7
7814	8	687.8	7848	8	722.9	7881	8	756.8
7815	8	688.8	7849	8	723.9	7882	8	757.8
7816	8	689.9				7883	8	758.8
7817	8	690.9	7850	8	724.9	7884	8	759.8
7818	8	691.9	7851	8	726.0	7885	8	760.8
7819	8	692.9	7852	8	727.0	7886	8	761.9
			7853	8	728.0	7887	8	762.9
7820	8	694.0	7854	8	729.1	7888	8	763.9
7821	8	695.0	7855	8	730.1	7889	8	764.9
7822	8	696.0	7856	8	731.1			
7823	8	697.0	7857	8	732.2	7890	8	766.0
7824	8	698.1	7858	8	733.2	7891	8	767.0
7825	8	699.1	7859	8	734.2	7892	8	768.0
7826	8	700.1				7893	8	769.1
7827	8	701.2	7860	8	735.3	7894	8	770.1
7828	8	702.2	7861	8	736.3	7895	8	771.1
7829	8	703.2	7862	8	737.3	7896	8	772.1
			7863	8	738.3	7897	8	773.2
7830	8	704.2	7864	8	739.4	7898	8	774.2
7831	8	705.3	7865	8	740.4	7899	8	775.2
7832	8	706.3	7866	8	741.4			
7833	8	707.3	7867	8	742.4	7900	8	776.3

Use check point at 7800 Kc

Frequency: 7900—8000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
7900	8	776.3	7934	8	811.4	7968	8	846.4
7901	8	777.3	7935	8	812.4	7969	8	847.5
7902	8	778.3	7936	8	813.4			
7903	8	779.4	7937	8	814.5	7970	8	848.5
7904	8	780.4	7938	8	815.5	7971	8	849.5
7905	8	781.4	7939	8	816.6	7972	8	850.5
7906	8	782.4				7973	8	851.6
7907	8	783.5	7940	8	817.6	7974	8	852.6
7908	8	784.5	7941	8	818.6	7975	8	853.6
7909	8	785.5	7942	8	819.7	7976	8	854.7
			7943	8	820.7	7977	8	855.7
7910	8	786.6	7944	8	821.7	7978	8	856.7
7911	8	787.6	7945	8	822.8	7979	8	857.7
7912	8	788.6	7946	8	823.8			
7913	8	789.7	7947	8	824.9	7980	8	858.8
7914	8	790.7	7948	8	825.9	7981	8	859.8
7915	8	791.7	7949	8	826.9	7982	8	860.8
7916	8	792.7				7983	8	861.8
7917	8	793.8	7950	8	828.0	7984	8	862.8
7918	8	794.8	7951	8	829.0	7985	8	863.8
7919	8	795.8	7952	8	830.0	7986	8	864.8
			7953	8	831.0	7987	8	865.8
7920	8	796.9	7954	8	832.1	7988	8	866.9
7921	8	797.9	7955	8	833.1	7989	8	867.9
7922	8	798.9	7956	8	834.1			
7923	8	800.0	7957	8	835.1	7990	8	868.9
7924	8	801.0	7958	8	836.2	7991	8	869.9
7925	8	802.0	7959	8	837.2	7992	8	870.9
7926	8	803.1				7993	8	871.9
7927	8	804.1	7960	8	838.2	7994	8	872.9
7928	8	805.2	7961	8	839.3	7995	8	874.0
7929	8	806.2	7962	8	840.3	7996	8	875.0
			7963	8	841.3	7997	8	876.0
7930	8	807.2	7964	8	842.3	7998	8	877.0
7931	8	808.3	7965	8	843.4	7999	8	878.0
7932	8	809.3	7966	8	844.4			
7933	8	810.3	7967	8	845.4	8000	8	879.0

Use check point at 7800 or 8100 Kc, whichever is nearer

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 7200—7300 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
7200	**8**	**60.0**	7234	8	94.7	7268	8	129.5
7201	8	61.0	7235	8	95.8	7269	8	130.5
7202	8	62.0	7236	8	96.8			
7203	8	63.1	7237	8	97.8	7270	8	131.5
7204	8	64.1	7238	8	98.8	7271	8	132.5
7205	8	65.1	7239	8	99.9	7272	8	133.5
7206	8	66.1				7273	8	134.5
7207	8	67.2	7240	8	100.9	7274	8	135.6
7208	8	68.2	7241	8	101.9	7275	8	136.6
7209	8	69.2	7242	8	102.9	7276	8	137.6
			7243	8	103.9	7277	8	138.6
7210	8	70.2	7244	8	105.0	7278	8	139.6
7211	8	71.2	7245	8	106.0	7279	8	140.6
7212	8	72.3	7246	8	107.0			
7213	8	73.3	7247	8	108.0	7280	8	141.7
7214	8	74.3	7248	8	109.1	7281	8	142.7
7215	8	75.3	7249	8	110.1	7282	8	143.7
7216	8	76.4				7283	8	144.7
7217	8	77.4	7250	8	111.1	7284	8	145.7
7218	8	78.4	7251	8	112.1	7285	8	146.7
7219	8	79.4	7252	8	113.1	7286	8	147.8
			7253	8	114.2	7287	8	148.8
7220	8	80.4	7254	8	115.2	7288	8	149.8
7221	8	81.5	7255	8	116.2	7289	8	150.8
7222	8	82.5	7256	8	117.2			
7223	8	83.5	7257	8	118.3	7290	8	151.8
7224	8	84.5	7258	8	119.3	7291	8	152.8
7225	8	85.6	7259	8	120.3	7292	8	153.8
7226	8	86.6				7293	8	154.9
7227	8	87.6	7260	8	121.3	7294	8	155.9
7228	8	88.6	7261	8	122.3	7295	8	156.9
7229	8	89.6	7262	8	123.4	7296	8	157.9
			7263	8	124.4	7297	8	158.9
7230	8	90.7	7264	8	125.4	7298	8	159.9
7231	8	91.7	7265	8	126.4	7299	8	160.9
7232	8	92.7	7266	8	127.4			
7233	8	93.7	7267	8	128.4	7300	8	161.9

Use check point at 7200 Kc

Frequency: 7300—7400 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
7300	8	161.9	7334	8	196.4	7368	8	230.8
7301	8	163.0	7335	8	197.4	7369	8	231.8
7302	8	164.0	7336	8	198.4			
7303	8	165.0	7337	8	199.4	7370	8	232.8
7304	8	166.0	7338	8	200.4	7371	8	233.9
7305	8	167.0	7339	8	201.4	7372	8	234.9
7306	8	168.0				7373	8	235.9
7307	8	169.0	7340	8	202.5	7374	8	236.9
7308	8	170.0	7341	8	203.5	7375	8	237.9
7309	8	171.0	7342	8	204.5	7376	8	238.9
			7343	8	205.5	7377	8	239.9
7310	8	172.1	7344	8	206.5	7378	8	240.9
7311	8	173.1	7345	8	207.5	7379	8	241.9
7312	8	174.1	7346	8	208.5			
7313	8	175.1	7347	8	209.6	7380	8	243.0
7314	8	176.1	7348	8	210.6	7381	8	244.0
7315	8	177.1	7349	8	211.6	7382	8	245.0
7316	8	178.1				7383	8	246.0
7317	8	179.1	7350	8	212.6	7384	8	247.0
7318	8	180.2	7351	8	213.6	7385	8	248.1
7319	8	181.2	7352	8	214.6	7386	8	249.1
			7353	8	215.6	7387	8	250.1
7320	8	182.2	7354	8	216.6	7388	8	251.1
7321	8	183.2	7355	8	217.7	7389	8	252.1
7322	8	184.2	7356	8	218.7			
7323	8	185.2	7357	8	219.7	7390	8	253.1
7324	8	186.2	7358	8	220.7	7391	8	254.2
7325	8	187.3	7359	8	221.7	7392	8	255.2
7326	8	188.3				7393	8	256.2
7327	8	189.3	7360	8	222.7	7394	8	257.2
7328	8	190.3	7361	8	223.7	7395	8	258.2
7329	8	191.3	7362	8	224.7	7396	8	259.2
			7363	8	225.8	7397	8	260.3
7330	8	192.3	7364	8	226.8	7398	8	261.3
7331	8	193.3	7365	8	227.8	7399	8	262.3
7332	8	194.3	7366	8	228.8			
7333	8	195.4	7367	8	229.8	7400	8	263.3

Use check point at 7200 or 7500 Kc, whichever is nearer

Frequency: 7400—7500 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
7400	8	263.3	7434	8	297.8	7468	8	332.4
7401	8	264.3	7435	8	298.8	7469	8	333.5
7402	8	265.4	7436	8	299.8			
7403	8	266.4	7437	8	300.9	7470	8	334.5
7404	8	267.4	7438	8	301.9	7471	8	335.5
7405	8	268.4	7439	8	302.9	7472	8	336.5
7406	8	269.4				7473	8	337.5
7407	8	270.4	7440	8	303.9	7474	8	338.6
7408	8	271.5	7441	8	304.9	7475	8	339.6
7409	8	272.5	7442	8	305.9	7476	8	340.6
			7443	8	307.0	7477	8	341.6
7410	8	273.5	7444	8	308.0	7478	8	342.7
7411	8	274.5	7445	8	309.0	7479	8	343.7
7412	8	275.5	7446	8	310.0			
7413	8	276.5	7447	8	311.0	7480	8	344.7
7414	8	277.6	7448	8	312.1	7481	8	345.7
7415	8	278.6	7449	8	313.1	7482	8	346.8
7416	8	279.6				7483	8	347.8
7417	8	280.6	7450	8	314.1	7484	8	348.8
7418	8	281.6	7451	8	315.1	7485	8	349.8
7419	8	282.6	7452	8	316.1	7486	8	350.8
			7453	8	317.2	7487	8	351.9
7420	8	283.6	7454	8	318.2	7488	8	352.9
7421	8	284.6	7455	8	319.2	7489	8	353.9
7422	8	285.7	7456	8	320.2			
7423	8	286.7	7457	8	321.2	7490	8	354.9
7424	8	287.7	7458	8	322.2	7491	8	356.0
7425	8	288.7	7459	8	323.3	7492	8	357.0
7426	8	289.7				7493	8	358.0
7427	8	290.7	7460	8	324.3	7494	8	359.0
7428	8	291.7	7461	8	325.3	7495	8	360.0
7429	8	292.8	7462	8	326.3	7496	8	361.1
			7463	8	327.3	7497	8	362.1
7430	8	293.8	7464	8	328.4	7498	8	363.1
7431	8	294.8	7465	8	329.4	7499	8	364.1
7432	8	295.8	7466	8	330.4			
7433	8	296.8	7467	8	331.4	**7500**	**8**	**365.2**

Use check point at 7500 Kc

Frequency: 7500—7600 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
7500	**8**	**365.2**	7534	8	399.7	7568	8	434.6
7501	8	366.2	7535	8	400.7	7569	8	435.6
7502	8	367.2	7536	8	401.8			
7503	8	368.2	7537	8	402.8	7570	8	436.7
7504	8	369.2	7538	8	403.8	7571	8	437.7
7505	8	370.2	7539	8	404.8	7572	8	438.7
7506	8	371.3				7573	8	439.8
7507	8	372.3	7540	8	405.9	7574	8	440.8
7508	8	373.3	7541	8	406.9	7575	8	441.8
7509	8	374.3	7542	8	407.9	7576	8	442.8
			7543	8	408.9	7577	8	443.9
7510	8	375.3	7544	8	410.0	7578	8	444.9
7511	8	376.3	7545	8	411.0	7579	8	445.9
7512	8	377.3	7546	8	412.0			
7513	8	378.4	7547	8	413.1	7580	8	447.0
7514	8	379.4	7548	8	414.1	7581	8	448.0
7515	8	380.4	7549	8	415.1	7582	8	449.0
7516	8	381.4				7583	8	450.0
7517	8	382.4	7550	8	416.1	7584	8	451.1
7518	8	383.4	7551	8	417.2	7585	8	452.1
7519	8	384.5	7552	8	418.2	7586	8	453.1
			7553	8	419.2	7587	8	454.2
7520	8	385.5	7554	8	420.2	7588	8	455.2
7521	8	386.5	7555	8	421.3	7589	8	456.2
7522	8	387.5	7556	8	422.3			
7523	8	388.5	7557	8	423.3	7590	8	457.2
7524	8	389.5	7558	8	424.3	7591	8	458.3
7525	8	390.5	7559	8	425.4	7592	8	459.3
7526	8	391.6				7593	8	460.3
7527	8	392.6	7560	8	426.4	7594	8	461.3
7528	8	393.6	7561	8	427.4	7595	8	462.3
7529	8	394.6	7562	8	428.4	7596	8	463.4
			7563	8	429.5	7597	8	464.4
7530	8	395.6	7564	8	430.5	7598	8	465.4
7531	8	396.6	7565	8	431.5	7599	8	466.4
7532	8	397.7	7566	8	432.6			
7533	8	398.7	7567	8	433.6	7600	8	467.4

Use check point at 7500 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 8400—8500 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
8400	**8**	**1285.3**	8434	8	1319.7	8468	8	1354.0
8401	8	1286.3	8435	8	1320.7	8469	8	1355.1
8402	8	1287.3	8436	8	1321.7			
8403	8	1288.3	8437	8	1322.7	8470	8	1356.1
8404	8	1289.3	8438	8	1323.7	8471	8	1357.1
8405	8	1290.4	8439	8	1324.8	8472	8	1358.1
8406	8	1291.4				8473	8	1359.1
8407	8	1292.4	8440	8	1325.8	8474	8	1360.1
8408	8	1293.4	8441	8	1326.8	8475	8	1361.1
8409	8	1294.4	8442	8	1327.8	8476	8	1362.1
			8443	8	1328.8	8477	8	1363.1
8410	8	1295.4	8444	8	1329.8	8478	8	1364.2
8411	8	1296.4	8445	8	1330.8	8479	8	1365.2
8412	8	1297.4	8446	8	1331.8			
8413	8	1298.5	8447	8	1332.8	8480	8	1366.2
8414	8	1299.5	8448	8	1333.8	8481	8	1367.2
8415	8	1300.5	8449	8	1334.9	8482	8	1368.2
8416	8	1301.5				8483	8	1369.2
8417	8	1302.5	8450	8	1335.9	8484	8	1370.2
8418	8	1303.5	8451	8	1336.9	8485	8	1371.2
8419	8	1304.5	8452	8	1337.9	8486	8	1372.2
			8453	8	1338.9	8487	8	1373.2
8420	8	1305.5	8454	8	1339.9	8488	8	1374.3
8421	8	1306.6	8455	8	1340.9	8489	8	1375.3
8422	8	1307.6	8456	8	1341.9			
8423	8	1308.6	8457	8	1342.9	8490	8	1376.3
8424	8	1309.6	8458	8	1343.9	8491	8	1377.3
8425	8	1310.6	8459	8	1345.0	8492	8	1378.3
8426	8	1311.6				8493	8	1379.3
8427	8	1312.6	8460	8	1346.0	8494	8	1380.3
8428	8	1313.6	8461	8	1347.0	8495	8	1381.3
8429	8	1314.6	8462	8	1348.0	8496	8	1382.3
			8463	8	1349.0	8497	8	1383.4
8430	8	1315.7	8464	8	1350.0	8498	8	1384.4
8431	8	1316.7	8465	8	1351.0	8499	8	1385.4
8432	8	1317.7	8466	8	1352.0			
8433	8	1318.7	8467	8	1353.0	8500	8	1386.4

Use check point at 8400 Kc

Frequency: 8500—8600 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
8500	8	1386.4	8534	8	1420.8	8568	8	1455.4
8501	8	1387.4	8535	8	1421.8	8569	8	1456.4
8502	8	1388.4	8536	8	1422.8			
8503	8	1389.4	8537	8	1423.9	8570	8	1457.4
8504	8	1390.4	8538	8	1424.9	8571	8	1458.5
8505	8	1391.4	8539	8	1425.9	8572	8	1459.5
8506	8	1392.5				8573	8	1460.5
8507	8	1393.5	8540	8	1426.9	8574	8	1461.5
8508	8	1394.5	8541	8	1427.9	8575	8	1462.5
8509	8	1395.5	8542	8	1428.9	8576	8	1463.6
			8543	8	1430.0	8577	8	1464.6
8510	8	1396.5	8544	8	1431.0	8578	8	1465.6
8511	8	1397.5	8545	8	1432.0	8579	8	1466.6
8512	8	1398.5	8546	8	1433.0			
8513	8	1399.5	8547	8	1434.0	8580	8	1467.6
8514	8	1400.5	8548	8	1435.0	8581	8	1468.7
8515	8	1401.5	8549	8	1436.0	8582	8	1469.7
8516	8	1402.6				8583	8	1470.7
8517	8	1403.6	8550	8	1437.1	8584	8	1471.7
8518	8	1404.6	8551	8	1438.1	8585	8	1472.7
8519	8	1405.6	8552	8	1439.1	8586	8	1473.7
			8553	8	1440.1	8587	8	1474.7
8520	8	1406.6	8554	8	1441.1	8588	8	1475.7
8521	8	1407.6	8555	8	1442.2	8589	8	1476.8
8522	8	1408.6	8556	8	1443.2			
8523	8	1409.6	8557	8	1444.2	8590	8	1477.8
8524	8	1410.7	8558	8	1445.2	8591	8	1478.8
8525	8	1411.7	8559	8	1446.2	8592	8	1479.8
8526	8	1412.7				8593	8	1480.8
8527	8	1413.7	8560	8	1447.3	8594	8	1481.8
8528	8	1414.7	8561	8	1448.3	8595	8	1482.8
8529	8	1415.7	8562	8	1449.3	8596	8	1483.8
			8563	8	1450.3	8597	8	1484.9
8530	8	1416.8	8564	8	1451.3	8598	8	1485.9
8531	8	1417.8	8565	8	1452.4	8599	8	1486.9
8532	8	1418.8	8566	8	1453.4			
8533	8	1419.8	8567	8	1454.4	8600	8	1487.9

Use check point at 8400 or 8700 Kc, whichever is nearer

Frequency: 8600—8700 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
8600	8	1487.9	8634	8	1522.5	8668	8	1557.2
8601	8	1488.9	8635	8	1523.6	8669	8	1558.3
8602	8	1489.9	8636	8	1524.6			
8603	8	1490.9	8637	8	1525.6	8670	8	1559.3
8604	8	1491.9	8638	8	1526.6	8671	8	1560.3
8605	8	1493.0	8639	8	1527.7	8672	8	1561.3
8606	8	1494.0				8673	8	1562.4
8607	8	1495.0	8640	8	1528.7	8674	8	1563.4
8608	8	1496.0	8641	8	1529.7	8675	8	1564.4
8609	8	1497.0	8642	8	1530.7	8676	8	1565.4
			8643	8	1531.7	8677	8	1566.5
8610	8	1498.0	8644	8	1532.8	8678	8	1567.5
8611	8	1499.0	8645	8	1533.8	8679	8	1568.5
8612	8	1500.1	8646	8	1534.8			
8613	8	1501.1	8647	8	1535.8	8680	8	1569.5
8614	8	1502.1	8648	8	1536.8	8681	8	1570.6
8615	8	1503.1	8649	8	1537.9	8682	8	1571.6
8616	8	1504.2				8683	8	1572.6
8617	8	1505.2	8650	8	1538.9	8684	8	1573.7
8618	8	1506.2	8651	8	1539.9	8685	8	1574.7
8619	8	1507.2	8652	8	1540.9	8686	8	1575.7
			8653	8	1541.9	8687	8	1576.7
8620	8	1508.2	8654	8	1543.0	8688	8	1577.8
8621	8	1509.3	8655	8	1544.0	8689	8	1578.8
8622	8	1510.3	8656	8	1545.0			
8623	8	1511.3	8657	8	1546.0	8690	8	1579.8
8624	8	1512.3	8658	8	1547.0	8691	8	1580.8
8625	8	1513.4	8659	8	1548.1	8692	8	1581.9
8626	8	1514.4				8693	8	1582.9
8627	8	1515.4	8660	8	1549.1	8694	8	1583.9
8628	8	1516.4	8661	8	1550.1	8695	8	1584.9
8629	8	1517.4	8662	8	1551.1	8696	8	1586.0
			8663	8	1552.1	8697	8	1587.0
8630	8	1518.5	8664	8	1553.2	8698	8	1588.0
8631	8	1519.5	8665	8	1554.2	8699	8	1589.1
8632	8	1520.5	8666	8	1555.2			
8633	8	1521.5	8667	8	1556.2	**8700**	**8**	**1590.1**

Use check point at 8700 Kc

Frequency: 8700—8800 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
8700	**8**	**1590.1**	8734	8	1625.2	8768	8	1660.6
8701	8	1591.1	8735	8	1626.3	8769	8	1661.7
8702	8	1592.1	8736	8	1627.3			
8703	8	1593.2	8737	8	1628.3	8770	8	1662.7
8704	8	1594.2	8738	8	1629.4	8771	8	1663.7
8705	8	1595.2	8739	8	1630.4	8772	8	1664.8
8706	8	1596.3				8773	8	1665.8
8707	8	1597.3	8740	8	1631.5	8774	8	1666.9
8708	8	1598.3	8741	8	1632.5	8775	8	1667.9
8709	8	1599.4	8742	8	1633.5	8776	8	1669.0
			8743	8	1634.6	8777	8	1670.0
8710	8	1600.4	8744	8	1635.6	8778	8	1671.0
8711	8	1601.4	8745	8	1636.7	8779	8	1672.1
8712	8	1602.5	8746	8	1637.7			
8713	8	1603.5	8747	8	1638.7	8780	8	1673.1
8714	8	1604.5	8748	8	1639.8	8781	8	1674.2
8715	8	1605.6	8749	8	1640.8	8782	8	1675.2
8716	8	1606.6				8783	8	1676.3
8717	8	1607.6	8750	8	1641.9	8784	8	1677.3
8718	8	1608.7	8751	8	1642.9	8785	8	1678.3
8719	8	1609.7	8752	8	1643.9	8786	8	1679.4
			8753	8	1645.0	8787	8	1680.4
8720	8	1610.7	8754	8	1646.0	8788	8	1681.5
8721	8	1611.8	8755	8	1647.1	8789	8	1682.5
8722	8	1612.8	8756	8	1648.1			
8723	8	1613.8	8757	8	1649.1	8790	8	1683.6
8724	8	1614.9	8758	8	1650.2	8791	8	1684.6
8725	8	1615.9	8759	8	1651.2	8792	8	1685.7
8726	8	1616.9				8793	8	1686.7
8727	8	1618.0	8760	8	1652.3	8794	8	1687.8
8728	8	1619.0	8761	8	1653.3	8795	8	1688.8
8729	8	1620.0	8762	8	1654.3	8796	8	1689.9
			8763	8	1655.4	8797	8	1690.9
8730	8	1621.1	8764	8	1656.4	8798	8	1692.0
8731	8	1622.1	8765	8	1657.5	8799	8	1693.0
8732	8	1623.1	8766	8	1658.5			
8733	8	1624.2	8767	8	1659.6	8800	8	1694.1

Use check point at 8700 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 8000–8100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
8000	8	879.0	8034	8	913.8	8068	8	948.6
8001	8	880.0	8035	8	914.9	8069	8	949.6
8002	8	881.0	8036	8	915.9			
8003	8	882.1	8037	8	916.9	8070	8	950.7
8004	8	883.1	8038	8	918.0	8071	8	951.7
8005	8	884.1	8039	8	919.0	8072	8	952.7
8006	8	885.1				8073	8	953.7
8007	8	886.1	8040	8	920.0	8074	8	954.8
8008	8	887.1	8041	8	921.0	8075	8	955.8
8009	8	888.1	8042	8	922.1	8076	8	956.8
			8043	8	923.1	8077	8	957.8
8010	8	889.1	8044	8	924.1	8078	8	958.8
8011	8	890.2	8045	8	925.1	8079	8	959.9
8012	8	891.2	8046	8	926.1			
8013	8	892.2	8047	8	927.2	8080	8	960.9
8014	8	893.3	8048	8	928.2	8081	8	961.9
8015	8	894.3	8049	8	929.2	8082	8	962.9
8016	8	895.3				8083	8	964.0
8017	8	896.3	8050	8	930.2	8084	8	965.0
8018	8	897.4	8051	8	931.3	8085	8	966.0
8019	8	898.4	8052	8	932.3	8086	8	967.0
			8053	8	933.3	8087	8	968.1
8020	8	899.4	8054	8	934.3	8088	8	969.1
8021	8	900.5	8055	8	935.3	8089	8	970.1
8022	8	901.5	8056	8	936.4			
8023	8	902.5	8057	8	937.4	8090	8	971.1
8024	8	903.6	8058	8	938.4	8091	8	972.2
8025	8	904.6	8059	8	939.4	8092	8	973.2
8026	8	905.6				8093	8	974.2
8027	8	906.6	8060	8	940.4	8094	8	975.2
8028	8	907.7	8061	8	941.5	8095	8	976.2
8029	8	908.7	8062	8	942.5	8096	8	977.3
			8063	8	943.5	8097	8	978.3
8030	8	909.7	8064	8	944.5	8098	8	979.3
8031	8	910.8	8065	8	945.6	8099	8	980.3
8032	8	911.8	8066	8	946.6			
8033	8	912.8	8067	8	947.6	**8100**	**8**	**981.4**

Use check point at 8100 Kc

Frequency: 8200–8300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
8200	8	1083.1	8234	8	1117.6	8268	8	1152.1
8201	8	1084.1	8235	8	1118.6	8269	8	1153.1
8202	8	1085.2	8236	8	1119.7			
8203	8	1086.2	8237	8	1120.7	8270	8	1154.1
8204	8	1087.2	8238	8	1121.7	8271	8	1155.1
8205	8	1088.2	8239	8	1122.7	8272	8	1156.1
8206	8	1089.2				8273	8	1157.1
8207	8	1090.2	8240	8	1123.7	8274	8	1158.1
8208	8	1091.3	8241	8	1124.7	8275	8	1159.2
8209	8	1092.3	8242	8	1125.7	8276	8	1160.2
			8243	8	1126.7	8277	8	1161.2
8210	8	1093.3	8244	8	1127.8	8278	8	1162.2
8211	8	1094.3	8245	8	1128.8	8279	8	1163.2
8212	8	1095.3	8246	8	1129.8			
8213	8	1096.3	8247	8	1130.8	8280	8	1164.2
8214	8	1097.3	8248	8	1131.8	8281	8	1165.2
8215	8	1098.4	8249	8	1132.8	8282	8	1166.2
8216	8	1099.4				8283	8	1167.2
8217	8	1100.4	8250	8	1133.8	8284	8	1168.2
8218	8	1101.4	8251	8	1134.9	8285	8	1169.3
8219	8	1102.4	8252	8	1135.9	8286	8	1170.3
			8253	8	1136.9	8287	8	1171.3
8220	8	1103.4	8254	8	1137.9	8288	8	1172.3
8221	8	1104.5	8255	8	1138.9	8289	8	1173.3
8222	8	1105.5	8256	8	1139.9			
8223	8	1106.5	8257	8	1140.9	8290	8	1174.3
8224	8	1107.5	8258	8	1141.9	8291	8	1175.3
8225	8	1108.5	8259	8	1143.0	8292	8	1176.3
8226	8	1109.5				8293	8	1177.3
8227	8	1110.5	8260	8	1144.0	8294	8	1178.3
8228	8	1111.5	8261	8	1145.0	8295	8	1179.3
8229	8	1112.6	8262	8	1146.0	8296	8	1180.3
			8263	8	1147.0	8297	8	1181.3
8230	8	1113.6	8264	8	1148.0	8298	8	1182.4
8231	8	1114.6	8265	8	1149.0	8299	8	1183.4
8232	8	1115.6	8266	8	1150.0			
8233	8	1116.6	8267	8	1151.1	8300	8	1184.4

Use check point at 8100 or 8400 Kc, whichever is nearer

Frequency: 8100–8200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
8100	**8**	**981.4**	8134	8	1016.0	8168	8	1050.6
8101	8	982.4	8135	8	1017.0	8169	8	1051.6
8102	8	983.4	8136	8	1018.1			
8103	8	984.4	8137	8	1019.1	8170	8	1052.6
8104	8	985.4	8138	8	1020.1	8171	8	1053.7
8105	8	986.5	8139	8	1021.1	8172	8	1054.7
8106	8	987.5				8173	8	1055.7
8107	8	988.5	8140	8	1022.1	8174	8	1056.7
8108	8	989.5	8141	8	1023.2	8175	8	1057.7
8109	8	990.5	8142	8	1024.2	8176	8	1058.7
			8143	8	1025.2	8177	8	1059.8
8110	8	991.6	8144	8	1026.2	8178	8	1060.8
8111	8	992.6	8145	8	1027.2	8179	8	1061.8
8112	8	993.6	8146	8	1028.2			
8113	8	994.6	8147	8	1029.3	8180	8	1062.8
8114	8	995.6	8148	8	1030.3	8181	8	1063.8
8115	8	996.7	8149	8	1031.3	8182	8	1064.8
8116	8	997.7				8183	8	1065.9
8117	8	998.7	8150	8	1032.3	8184	8	1066.9
8118	8	999.7	8151	8	1033.3	8185	8	1067.9
8119	8	1000.7	8152	8	1034.3	8186	8	1068.9
			8153	8	1035.4	8187	8	1069.9
8120	8	1001.8	8154	8	1036.4	8188	8	1070.9
8121	8	1002.8	8155	8	1037.4	8189	8	1072.0
8122	8	1003.8	8156	8	1038.4			
8123	8	1004.8	8157	8	1039.4	8190	8	1073.0
8124	8	1005.8	8158	8	1040.4	8191	8	1074.0
8125	8	1006.9	8159	8	1041.5	8192	8	1075.0
8126	8	1007.9				8193	8	1076.0
8127	8	1008.9	8160	8	1042.5	8194	8	1077.0
8128	8	1009.9	8161	8	1043.5	8195	8	1078.1
8129	8	1010.9	8162	8	1044.5	8196	8	1079.1
			8163	8	1045.5	8197	8	1080.1
8130	8	1012.0	8164	8	1046.5	8198	8	1081.1
8131	8	1013.0	8165	8	1047.6	8199	8	1082.1
8132	8	1014.0	8166	8	1048.6			
8133	8	1015.0	8167	8	1049.6	8200	8	1083.1

Use check point at 8100 Kc

Frequency: 8300–8400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
8300	8	1184.4	8334	8	1218.8	8368	8	1253.1
8301	8	1185.4	8335	8	1219.8	8369	8	1254.1
8302	8	1186.4	8336	8	1220.8			
8303	8	1187.4	8337	8	1221.9	8370	8	1255.1
8304	8	1188.4	8338	8	1222.9	8371	8	1256.1
8305	8	1189.4	8339	8	1223.9	8372	8	1257.1
8306	8	1190.4				8373	8	1258.1
8307	8	1191.4	8340	8	1224.9	8374	8	1259.1
8308	8	1192.4	8341	8	1225.9	8375	8	1260.1
8309	8	1193.4	8342	8	1226.9	8376	8	1261.1
			8343	8	1227.9	8377	8	1262.1
8310	8	1194.4	8344	8	1228.9	8378	8	1263.2
8311	8	1195.5	8345	8	1229.9	8379	8	1264.2
8312	8	1196.5	8346	8	1230.9			
8313	8	1197.5	8347	8	1231.9	8380	8	1265.2
8314	8	1198.5	8348	8	1233.0	8381	8	1266.2
8315	8	1199.5	8349	8	1234.0	8382	8	1267.2
8316	8	1200.5				8383	8	1268.2
8317	8	1201.5	8350	8	1235.0	8384	8	1269.2
8318	8	1202.6	8351	8	1236.0	8385	8	1270.2
8319	8	1203.6	8352	8	1237.0	8386	8	1271.2
			8353	8	1238.0	8387	8	1272.2
8320	8	1204.6	8354	8	1239.0	8388	8	1273.2
8321	8	1205.6	8355	8	1240.0	8389	8	1274.2
8322	8	1206.6	8356	8	1241.0			
8323	8	1207.6	8357	8	1242.0	8390	8	1275.2
8324	8	1208.7	8358	8	1243.0	8391	8	1276.2
8325	8	1209.7	8359	8	1244.0	8392	8	1277.2
8326	8	1210.7				8393	8	1278.3
8327	8	1211.7	8360	8	1245.0	8394	8	1279.3
8328	8	1212.7	8361	8	1246.0	8395	8	1280.3
8329	8	1213.7	8362	8	1247.0	8396	8	1281.3
			8363	8	1248.1	8397	8	1282.3
8330	8	1214.7	8364	8	1249.1	8398	8	1283.3
8331	8	1215.8	8365	8	1250.1	8399	8	1284.3
8332	8	1216.8	8366	8	1251.1			
8333	8	1217.8	8367	8	1252.1	**8400**	**8**	**1285.3**

Use check point at 8400 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 9200—9300 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
9200	9	263.8	9234	9	291.7	9268	9	319.6
9201	9	264.6	9235	9	292.5	9269	9	320.4
9202	9	265.5	9236	9	293.3			
9203	9	266.3	9237	9	294.2	9270	9	321.2
9204	9	267.1	9238	9	295.0	9271	9	322.1
9205	9	267.9	9239	9	295.8	9272	9	322.9
9206	9	268.7				9273	9	323.7
9207	9	269.6	9240	9	296.6	9274	9	324.5
9208	9	270.4	9241	9	297.4	9275	9	325.3
9209	9	271.2	9242	9	298.3	9276	9	326.2
			9243	9	299.1	9277	9	327.0
9210	9	272.0	9244	9	299.9	9278	9	327.8
9211	9	272.8	9245	9	300.7	9279	9	328.6
9212	9	273.7	9246	9	301.5			
9213	9	274.5	9247	9	302.4	9280	9	329.4
9214	9	275.3	9248	9	303.2	9281	9	330.3
9215	9	276.1	9249	9	304.0	9282	9	331.1
9216	9	276.9				9283	9	331.9
9217	9	277.8	9250	9	304.8	9284	9	332.7
9218	9	278.6	9251	9	305.6	9285	9	333.5
9219	9	279.4	9252	9	306.5	9286	9	334.4
			9253	9	307.3	9287	9	335.2
9220	9	280.2	9254	9	308.1	9288	9	336.0
9221	9	281.0	9255	9	308.9	9289	9	336.8
9222	9	281.8	9256	9	309.7			
9223	9	282.7	9257	9	310.6	9290	9	337.6
9224	9	283.5	9258	9	311.4	9291	9	338.5
9225	9	284.3	9259	9	312.2	9292	9	339.3
9226	9	285.1				9293	9	340.1
9227	9	285.9	9260	9	313.0	9294	9	340.9
9228	9	286.8	9261	9	313.9	9295	9	341.7
9229	9	287.6	9262	9	314.7	9296	9	342.6
			9263	9	315.5	9297	9	343.4
9230	9	288.4	9264	9	316.3	9298	9	344.2
9231	9	289.2	9265	9	317.1	9299	9	345.0
9232	9	290.0	9266	9	318.0			
9233	9	290.9	9267	9	318.8	9300	9	345.8

Use check point at 9000 or 9450 Kc, whichever is nearer

Frequency: 9300—9400 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
9300	9	345.8	9334	9	373.7	9368	9	401.7
9301	9	346.7	9335	9	374.5	9369	9	402.5
9302	9	347.5	9336	9	375.4			
9303	9	348.3	9337	9	376.2	9370	9	403.3
9304	9	349.1	9338	9	377.0	9371	9	404.2
9305	9	349.9	9339	9	377.8	9372	9	405.0
9306	9	350.8				9373	9	405.8
9307	9	351.6	9340	9	378.6	9374	9	406.6
9308	9	352.4	9341	9	379.5	9375	9	407.5
9309	9	353.2	9342	9	380.3	9376	9	408.3
			9343	9	381.1	9377	9	409.1
9310	9	354.0	9344	9	381.9	9378	9	410.0
9311	9	354.9	9345	9	382.7	9379	9	410.8
9312	9	355.7	9346	9	383.6			
9313	9	356.5	9347	9	384.4	9380	9	411.6
9314	9	357.3	9348	9	385.2	9381	9	412.4
9315	9	358.1	9349	9	386.0	9382	9	413.3
9316	9	359.0				9383	9	414.1
9317	9	359.8	9350	9	386.8	9384	9	414.9
9318	9	360.6	9351	9	387.7	9385	9	415.8
9319	9	361.4	9352	9	388.5	9386	9	416.6
			9353	9	389.3	9387	9	417.4
9320	9	362.2	9354	9	390.1	9388	9	418.2
9321	9	363.1	9355	9	390.9	9389	9	419.1
9322	9	363.9	9356	9	391.8			
9323	9	364.7	9357	9	392.6	9390	9	419.9
9324	9	365.5	9358	9	393.4	9391	9	420.7
9325	9	366.3	9359	9	394.2	9392	9	421.6
9326	9	367.2				9393	9	422.4
9327	9	368.0	9360	9	395.1	9394	9	423.2
9328	9	368.8	9361	9	395.9	9395	9	424.0
9329	9	369.6	9362	9	396.7	9396	9	424.9
			9363	9	397.5	9397	9	425.7
9330	9	370.4	9364	9	398.4	9398	9	426.5
9331	9	371.3	9365	9	399.2	9399	9	427.4
9332	9	372.1	9366	9	400.0			
9333	9	372.9	9367	9	400.8	9400	9	428.2

Use check point at 9450 Kc

Frequency: 9400—9500 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
9400	9	428.2	9434	9	456.3	9468	9	484.4
9401	9	429.0	9435	9	457.2	9469	9	485.3
9402	9	429.8	9436	9	458.0			
9403	9	430.7	9437	9	458.8	9470	9	486.1
9404	9	431.5	9438	9	459.6	9471	9	486.9
9405	9	432.3	9439	9	460.5	9472	9	487.7
9406	9	433.2				9473	9	488.6
9407	9	434.0	9440	9	461.3	9474	9	489.4
9408	9	434.8	9441	9	462.1	9475	9	490.2
9409	9	435.6	9442	9	462.9	9476	9	491.0
			9443	9	463.8	9477	9	491.9
9410	9	436.5	9444	9	464.6	9478	9	492.7
9411	9	437.3	9445	9	465.4	9479	9	493.5
9412	9	438.1	9446	9	466.3			
9413	9	438.9	9447	9	467.1	9480	9	494.3
9414	9	439.8	9448	9	467.9	9481	9	495.2
9415	9	440.6	9449	9	468.7	9482	9	496.0
9416	9	441.4				9483	9	496.8
9417	9	442.3	**9450**	**9**	**469.6**	9484	9	497.6
9418	9	443.1	9451	9	470.4	9485	9	498.5
9419	9	443.9	9452	9	471.2	9486	9	499.3
			9453	9	472.1	9487	9	500.1
9420	9	444.7	9454	9	472.9	9488	9	500.9
9421	9	445.6	9455	9	473.7	9489	9	501.8
9422	9	446.4	9456	9	474.5			
9423	9	447.2	9457	9	475.4	9490	9	502.6
9424	9	448.0	9458	9	476.2	9491	9	503.4
9425	9	448.9	9459	9	477.0	9492	9	504.2
9426	9	449.7				9493	9	505.1
9427	9	450.5	9460	9	477.8	9494	9	505.9
9428	9	451.4	9461	9	478.7	9495	9	506.7
9429	9	452.2	9462	9	479.5	9496	9	507.6
			9463	9	480.3	9497	9	508.4
9430	9	453.0	9464	9	481.1	9498	9	509.2
9431	9	453.8	9465	9	482.0	9499	9	510.0
9432	9	454.7	9466	9	482.8			
9433	9	455.5	9467	9	483.6	9500	9	510.9

Use check point at 9450 Kc

Frequency: 9500—9600 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
9500	9	510.9	9534	9	539.1	9568	9	567.3
9501	9	511.7	9535	9	540.0	9569	9	568.2
9502	9	512.5	9536	9	540.8			
9503	9	513.4	9537	9	541.6	9570	9	569.0
9504	9	514.2	9538	9	542.5	9571	9	569.8
9505	9	515.0	9539	9	543.3	9572	9	570.6
9506	9	515.9				9573	9	571.5
9507	9	516.7	9540	9	544.1	9574	9	572.3
9508	9	517.5	9541	9	544.9	9575	9	573.1
9509	9	518.4	9542	9	545.8	9576	9	574.0
			9543	9	546.6	9577	9	574.8
9510	9	519.2	9544	9	547.4	9578	9	575.6
9511	9	520.0	9545	9	548.3	9579	9	576.4
9512	9	520.8	9546	9	549.1			
9513	9	521.7	9547	9	549.9	9580	9	577.3
9514	9	522.5	9548	9	550.7	9581	9	578.1
9515	9	523.3	9549	9	551.6	9582	9	578.9
9516	9	524.2				9583	9	579.8
9517	9	525.0	9550	9	552.4	9584	9	580.6
9518	9	525.8	9551	9	553.2	9585	9	581.4
9519	9	526.7	9552	9	554.1	9586	9	582.2
			9553	9	554.9	9587	9	583.1
9520	9	527.5	9554	9	555.7	9588	9	583.9
9521	9	528.3	9555	9	556.5	9589	9	584.7
9522	9	529.2	9556	9	557.4			
9523	9	530.0	9557	9	558.2	9590	9	585.6
9524	9	530.8	9558	9	559.0	9591	9	586.4
9525	9	531.7	9559	9	559.9	9592	9	587.2
9526	9	532.5				9593	9	588.1
9527	9	533.3	9560	9	560.7	9594	9	588.9
9528	9	534.1	9561	9	561.5	9595	9	589.7
9529	9	535.0	9562	9	562.4	9596	9	590.6
			9563	9	563.2	9597	9	591.4
9530	9	535.8	9564	9	564.0	9598	9	592.2
9531	9	536.6	9565	9	564.8	9599	9	593.1
9532	9	537.5	9566	9	565.7			
9533	9	538.3	9567	9	566.5	9600	9	593.9

Use check point at 9450 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 8800—8900 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
8800	8	1694.1	8834	8	1729.9	8868	8	1766.0
8801	8	1695.1	8835	8	1731.0	8869	8	1767.1
8802	8	1696.2	8836	8	1732.0			
8803	8	1697.2	8837	8	1733.1	8870	8	1768.2
8804	8	1698.3	8838	8	1734.1	8871	8	1769.3
8805	8	1699.3	8839	8	1735.2	8872	8	1770.3
8806	8	1700.4				8873	8	1771.4
8807	8	1701.4	8840	8	1736.2	8874	8	1772.5
8808	8	1702.5	8841	8	1737.3	8875	8	1773.5
8809	8	1703.5	8842	8	1738.4	8876	8	1774.6
			8843	8	1739.4	8877	8	1775.7
8810	8	1704.6	8844	8	1740.5	8878	8	1776.7
8811	8	1705.7	8845	8	1741.5	8879	8	1777.8
8812	8	1706.7	8846	8	1742.6			
8813	8	1707.8	8847	8	1743.6	8880	8	1778.9
8814	8	1708.8	8848	8	1744.7	8881	8	1780.0
8815	8	1709.9	8849	8	1745.7	8882	8	1781.0
8816	8	1710.9				8883	8	1782.1
8817	8	1712.0	8850	8	1746.8	8884	8	1783.2
8818	8	1713.0	8851	8	1747.9	8885	8	1784.3
8819	8	1714.1	8852	8	1748.9	8886	8	1785.3
			8853	8	1750.0	8887	8	1786.4
8820	8	1715.1	8854	8	1751.1	8888	8	1787.5
8821	8	1716.2	8855	8	1752.1	8889	8	1788.6
8822	8	1717.2	8856	8	1753.2			
8823	8	1718.3	8857	8	1754.3	8890	8	1789.6
8824	8	1719.3	8858	8	1755.4	8891	8	1790.7
8825	8	1720.4	8859	8	1756.4	8892	8	1791.8
8826	8	1721.5				8893	8	1792.9
8827	8	1722.5	8860	8	1757.5	8894	8	1794.0
8828	8	1723.6	8861	8	1758.6	8895	8	1795.0
8829	8	1724.6	8862	8	1759.6	8896	8	1796.1
			8863	8	1760.7	8897	8	1797.2
8830	8	1725.7	8864	8	1761.8	8898	8	1798.3
8831	8	1726.7	8865	8	1762.8	8899	8	1799.3
8832	8	1727.8	8866	8	1763.9			
8833	8	1728.8	8867	8	1765.0	8900	8	1800.4

Use check point at 8700 or 9000 Kc, whichever is nearer

Frequency: 8900—9000 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
8900	8	1800.4	8934	8	1837.2	8968	8	1874.6
8901	8	1801.5	8935	8	1838.3	8969	8	1875.7
8902	8	1802.6	8936	8	1839.3			
8903	8	1803.6	8937	8	1840.4	8970	8	1876.8
8904	8	1804.7	8938	8	1841.5	8971	8	1877.9
8905	8	1805.8	8939	8	1842.6	8972	8	1879.0
8906	8	1806.9				8973	8	1880.1
8907	8	1808.0	8940	8	1843.7	8974	8	1881.2
8908	8	1809.0	8941	8	1844.8	8975	8	1882.3
8909	8	1810.1	8942	8	1845.9	8976	8	1883.4
			8943	8	1847.0	8977	8	1884.5
8910	8	1811.2	8944	8	1848.1	8978	8	1885.6
8911	8	1812.3	8945	8	1849.2	8979	8	1886.7
8912	8	1813.3	8946	8	1850.3			
8913	8	1814.4	8947	8	1851.4	8980	8	1887.8
8914	8	1815.5	8948	8	1852.5	8981	8	1888.9
8915	8	1816.6	8949	8	1853.6	8982	8	1890.1
8916	8	1817.7				8983	8	1891.2
8917	8	1818.8	8950	8	1854.7	8984	8	1892.3
8918	8	1819.8	8951	8	1855.8	8985	8	1893.4
8919	8	1820.9	8952	8	1856.9	8986	8	1894.5
			8953	8	1858.0	8987	8	1895.6
8920	8	1822.0	8954	8	1859.1	8988	8	1896.7
8921	8	1823.1	8955	8	1860.2	8989	8	1897.8
8922	8	1824.2	8956	8	1861.3			
8923	8	1825.3	8957	8	1862.4	8990	8	1898.9
8924	8	1826.3	8958	8	1863.5	8991	8	1900.0
8925	8	1827.4	8959	8	1864.6	8992	8	1901.1
8926	8	1828.5				8993	8	1902.2
8927	8	1829.6	8960	8	1865.7	8994	8	1903.4
8928	8	1830.7	8961	8	1866.8	8995	8	1904.5
8929	8	1831.8	8962	8	1867.9	8996	8	1905.6
			8963	8	1869.0	8997	8	1906.7
8930	8	1832.8	8964	8	1870.1	8998	8	1907.8
8931	8	1833.9	8965	8	1871.2	8999	8	1908.9
8932	8	1835.0	8966	8	1872.3			
8933	8	1836.1	8967	8	1873.5	**9000**	**8**	**1910.0**

Use check point at 9000 Kc

Frequency: 9000—9100 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
9000	**9**	**100.1**	9034	9	128.1	9068	9	156.0
9001	9	101.0	9035	9	128.9	9069	9	156.8
9002	9	101.8	9036	9	129.7			
9003	9	102.6	9037	9	130.6	9070	9	157.6
9004	9	103.4	9038	9	131.4	9071	9	158.4
9005	9	104.3	9039	9	132.2	9072	9	159.2
9006	9	105.1				9073	9	160.1
9007	9	105.9	9040	9	133.0	9074	9	160.9
9008	9	106.7	9041	9	133.8	9075	9	161.7
9009	9	107.5	9042	9	134.7	9076	9	162.5
			9043	9	135.5	9077	9	163.3
9010	9	108.4	9044	9	136.3	9078	9	164.2
9011	9	109.2	9045	9	137.1	9079	9	165.0
9012	9	110.0	9046	9	137.9			
9013	9	110.8	9047	9	138.8	9080	9	165.8
9014	9	111.6	9048	9	139.6	9081	9	166.6
9015	9	112.5	9049	9	140.4	9082	9	167.4
9016	9	113.3				9083	9	168.3
9017	9	114.1	9050	9	141.2	9084	9	169.1
9018	9	114.9	9051	9	142.0	9085	9	169.9
9019	9	115.8	9052	9	142.9	9086	9	170.7
			9053	9	143.7	9087	9	171.5
9020	9	116.6	9054	9	144.5	9088	9	172.3
9021	9	117.4	9055	9	145.3	9089	9	173.2
9022	9	118.2	9056	9	146.1			
9023	9	119.0	9057	9	147.0	9090	9	174.0
9024	9	119.9	9058	9	147.8	9091	9	174.8
9025	9	120.7	9059	9	148.6	9092	9	175.6
9026	9	121.5				9093	9	176.4
9027	9	122.3	9060	9	149.4	9094	9	177.2
9028	9	123.2	9061	9	150.2	9095	9	178.1
9029	9	124.0	9062	9	151.1	9096	9	178.9
			9063	9	151.9	9097	9	179.7
9030	9	124.8	9064	9	152.7	9098	9	180.5
9031	9	125.6	9065	9	153.5	9099	9	181.3
9032	9	126.4	9066	9	154.3			
9033	9	127.3	9067	9	155.1	9100	9	182.1

Use check point at 9000 Kc

Frequency: 9100—9200 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
9100	9	182.1	9134	9	209.9	9168	9	237.7
9101	9	183.0	9135	9	210.7	9169	9	238.5
9102	9	183.8	9136	9	211.5			
9103	9	184.6	9137	9	212.3	9170	9	239.3
9104	9	185.4	9138	9	213.2	9171	9	240.1
9105	9	186.2	9139	9	214.0	9172	9	240.9
9106	9	187.0				9173	9	241.7
9107	9	187.9	9140	9	214.8	9174	9	242.5
9108	9	188.7	9141	9	215.6	9175	9	243.4
9109	9	189.5	9142	9	216.4	9176	9	244.2
			9143	9	217.2	9177	9	245.0
9110	9	190.3	9144	9	218.1	9178	9	245.8
9111	9	191.1	9145	9	218.9	9179	9	246.6
9112	9	191.9	9146	9	219.7			
9113	9	192.8	9147	9	220.5	9180	9	247.4
9114	9	193.6	9148	9	221.3	9181	9	248.3
9115	9	194.4	9149	9	222.1	9182	9	249.1
9116	9	195.2				9183	9	249.9
9117	9	196.0	9150	9	223.0	9184	9	250.7
9118	9	196.8	9151	9	223.8	9185	9	251.5
9119	9	197.6	9152	9	224.6	9186	9	252.4
			9153	9	225.4	9187	9	253.2
9120	9	198.5	9154	9	226.2	9188	9	254.0
9121	9	199.3	9155	9	227.0	9189	9	254.8
9122	9	200.1	9156	9	227.9			
9123	9	200.9	9157	9	228.7	9190	9	255.6
9124	9	201.7	9158	9	229.5	9191	9	256.5
9125	9	202.5	9159	9	230.3	9192	9	257.3
9126	9	203.4				9193	9	258.1
9127	9	204.2	9160	9	231.1	9194	9	258.9
9128	9	205.0	9161	9	231.9	9195	9	259.7
9129	9	205.8	9162	9	232.8	9196	9	260.6
			9163	9	233.6	9197	9	261.4
9130	9	206.6	9164	9	234.4	9198	9	262.2
9131	9	207.4	9165	9	235.2	9199	9	263.0
9132	9	208.3	9166	9	236.0			
9133	9	209.1	9167	9	236.8	9200	9	263.8

Use check point at 9000 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 10000—10100 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
10000	9	925.5	10034	9	953.5	10068	9	981.4
10001	9	926.3	10035	9	954.3	10069	9	982.2
10002	9	927.1	10036	9	955.2			
10003	9	928.0	10037	9	956.0	10070	9	983.0
10004	9	928.8	10038	9	956.8	10071	9	983.9
10005	9	929.6	10039	9	957.6	10072	9	984.7
10006	9	930.4				10073	9	985.5
10007	9	931.3	10040	9	958.4	10074	9	986.3
10008	9	932.1	10041	9	959.3	10075	9	987.1
10009	9	932.9	10042	9	960.1	10076	9	988.0
			10043	9	960.9	10077	9	988.8
10010	9	933.7	10044	9	961.7	10078	9	989.6
10011	9	934.6	10045	9	962.5	10079	9	990.4
10012	9	935.4	10046	9	963.4			
10013	9	936.2	10047	9	964.2	10080	9	991.2
10014	9	937.0	10048	9	965.0	10081	9	992.1
10015	9	937.8	10049	9	965.8	10082	9	992.9
10016	9	938.7				10083	9	993.7
10017	9	939.5	10050	9	966.6	10084	9	994.5
10018	9	940.3	10051	9	967.5	10085	9	995.4
10019	9	941.1	10052	9	968.3	10086	9	996.2
			10053	9	969.1	10087	9	997.0
10020	9	942.0	10054	9	969.9	10088	9	997.8
10021	9	942.8	10055	9	970.7	10089	9	998.6
10022	9	943.6	10056	9	971.6			
10023	9	944.4	10057	9	972.4	10090	9	999.5
10024	9	945.3	10058	9	973.2	10091	9	1000.3
10025	9	946.1	10059	9	974.0	10092	9	1001.1
10026	9	946.9				10093	9	1001.9
10027	9	947.7	10060	9	974.8	10094	9	1002.8
10028	9	948.6	10061	9	975.7	10095	9	1003.6
10029	9	949.4	10062	9	976.5	10096	9	1004.4
			10063	9	977.3	10097	9	1005.2
10030	9	950.2	10064	9	978.1	10098	9	1006.0
10031	9	951.0	10065	9	978.9	10099	9	1006.9
10032	9	951.9	10066	9	979.8			
10033	9	952.7	10067	9	980.6	10100	9	1007.7

Use check point at 9900 Kc

Frequency: 10200—10300 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
10200	9	1089.7	10234	9	1117.4	10268	9	1145.1
10201	9	1090.5	10235	9	1118.2	10269	9	1145.9
10202	9	1091.3	10236	9	1119.0			
10203	9	1092.1	10237	9	1119.9	10270	9	1146.7
10204	9	1092.9	10238	9	1120.7	10271	9	1147.6
10205	9	1093.8	10239	9	1121.5	10272	9	1148.4
10206	9	1094.6				10273	9	1149.2
10207	9	1095.4	10240	9	1122.3	10274	9	1150.0
10208	9	1096.2	10241	9	1123.1	10275	9	1150.8
10209	9	1097.0	10242	9	1123.9	10276	9	1151.6
			10243	9	1124.7	10277	9	1152.4
10210	9	1097.8	10244	9	1125.6	10278	9	1153.3
10211	9	1098.6	10245	9	1126.4	10279	9	1154.1
10212	9	1099.5	10246	9	1127.2			
10213	9	1100.3	10247	9	1128.0	10280	9	1154.9
10214	9	1101.1	10248	9	1128.8	10281	9	1155.7
10215	9	1101.9	10249	9	1129.6	10282	9	1156.5
10216	9	1102.7				10283	9	1157.3
10217	9	1103.5	10250	9	1130.5	10284	9	1158.1
10218	9	1104.4	10251	9	1131.3	10285	9	1158.9
10219	9	1105.2	10252	9	1132.1	10286	9	1159.8
			10253	9	1132.9	10287	9	1160.6
10220	9	1106.0	10254	9	1133.7	10288	9	1161.4
10221	9	1106.8	10255	9	1134.5	10289	9	1162.2
10222	9	1107.6	10256	9	1135.3			
10223	9	1108.4	10257	9	1136.2	10290	9	1163.0
10224	9	1109.2	10258	9	1137.0	10291	9	1163.8
10225	9	1110.1	10259	9	1137.8	10292	9	1164.6
10226	9	1110.9				10293	9	1165.5
10227	9	1111.7	10260	9	1138.6	10294	9	1166.3
10228	9	1112.5	10261	9	1139.4	10295	9	1167.1
10229	9	1113.3	10262	9	1140.2	10296	9	1167.9
			10263	9	1141.0	10297	9	1168.7
10230	9	1114.1	10264	9	1141.9	10298	9	1169.5
10231	9	1115.0	10265	9	1142.7	10299	9	1170.3
10232	9	1115.8	10266	9	1143.5			
10233	9	1116.6	10267	9	1144.3	10300	9	1171.2

Use check point at 10350 Kc

Frequency: 10100—10200 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
10100	9	1007.7	10134	9	1035.7	10168	9	1063.6
10101	9	1008.5	10135	9	1036.5	10169	9	1064.4
10102	9	1009.3	10136	9	1037.3			
10103	9	1010.2	10137	9	1038.1	10170	9	1065.3
10104	9	1011.0	10138	9	1038.9	10171	9	1066.1
10105	9	1011.8	10139	9	1039.8	10172	9	1066.9
10106	9	1012.6				10173	9	1067.7
10107	9	1013.5	10140	9	1040.6	10174	9	1068.5
10108	9	1014.3	10141	9	1041.4	10175	9	1069.3
10109	9	1015.1	10142	9	1042.2	10176	9	1070.1
			10143	9	1043.1	10177	9	1071.0
10110	9	1015.9	10144	9	1043.9	10178	9	1071.8
10111	9	1016.7	10145	9	1044.7	10179	9	1072.6
10112	9	1017.6	10146	9	1045.5			
10113	9	1018.4	10147	9	1046.3	10180	9	1073.4
10114	9	1019.2	10148	9	1047.2	10181	9	1074.2
10115	9	1020.0	10149	9	1048.0	10182	9	1075.0
10116	9	1020.9				10183	9	1075.8
10117	9	1021.7	10150	9	1048.8	10184	9	1076.7
10118	9	1022.5	10151	9	1049.6	10185	9	1077.5
10119	9	1023.3	10152	9	1050.5	10186	9	1078.3
			10153	9	1051.3	10187	9	1079.1
10120	9	1024.1	10154	9	1052.1	10188	9	1079.9
10121	9	1025.0	10155	9	1052.9	10189	9	1080.7
10122	9	1025.8	10156	9	1053.7			
10123	9	1026.6	10157	9	1054.6	10190	9	1081.5
10124	9	1027.4	10158	9	1055.4	10191	9	1082.4
10125	9	1028.3	10159	9	1056.2	10192	9	1083.2
10126	9	1029.1				10193	9	1084.0
10127	9	1029.9	10160	9	1057.0	10194	9	1084.8
10128	9	1030.7	10161	9	1057.9	10195	9	1085.6
10129	9	1031.5	10162	9	1058.7	10196	9	1086.4
			10163	9	1059.5	10197	9	1087.2
10130	9	1032.4	10164	9	1060.3	10198	9	1088.1
10131	9	1033.2	10165	9	1061.1	10199	9	1088.9
10132	9	1034.0	10166	9	1062.0			
10133	9	1034.8	10167	9	1062.8	10200	9	1089.7

Use check point at 9900 or 10350 Kc, whichever is nearer

Frequency: 10300—10400 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
10300	9	1171.2	10334	9	1198.8	10368	9	1226.4
10301	9	1172.0	10335	9	1199.6	10369	9	1227.2
10302	9	1172.8	10336	9	1200.4			
10303	9	1173.6	10337	9	1201.2	10370	9	1228.0
10304	9	1174.4	10338	9	1202.0	10371	9	1228.8
10305	9	1175.2	10339	9	1202.8	10372	9	1229.6
10306	9	1176.0				10373	9	1230.4
10307	9	1176.8	10340	9	1203.7	10374	9	1231.3
10308	9	1177.7	10341	9	1204.5	10375	9	1232.1
10309	9	1178.5	10342	9	1205.3	10376	9	1232.9
			10343	9	1206.1	10377	9	1233.7
10310	9	1179.3	10344	9	1206.9	10378	9	1234.5
10311	9	1180.1	10345	9	1207.7	10379	9	1235.3
10312	9	1180.9	10346	9	1208.5			
10313	9	1181.7	10347	9	1209.3	10380	9	1236.1
10314	9	1182.5	10348	9	1210.1	10381	9	1236.9
10315	9	1183.4	10349	9	1211.0	10382	9	1237.7
10316	9	1184.2				10383	9	1238.6
10317	9	1185.0	**10350**	**9**	**1211.8**	10384	9	1239.4
10318	9	1185.8	10351	9	1212.6	10385	9	1240.2
10319	9	1186.6	10352	9	1213.4	10386	9	1241.0
			10353	9	1214.2	10387	9	1241.8
10320	9	1187.4	10354	9	1215.0	10388	9	1242.6
10321	9	1188.2	10355	9	1215.8	10389	9	1243.4
10322	9	1189.0	10356	9	1216.6			
10323	9	1189.8	10357	9	1217.5	10390	9	1244.2
10324	9	1190.7	10358	9	1218.3	10391	9	1245.1
10325	9	1191.5	10359	9	1219.1	10392	9	1245.9
10326	9	1192.3				10393	9	1246.7
10327	9	1193.1	10360	9	1219.9	10394	9	1247.5
10328	9	1193.9	10361	9	1220.7	10395	9	1248.3
10329	9	1194.7	10362	9	1221.5	10396	9	1249.1
			10363	9	1222.3	10397	9	1249.9
10330	9	1195.5	10364	9	1223.1	10398	9	1250.7
10331	9	1196.3	10365	9	1224.0	10399	9	1251.5
10332	9	1197.2	10366	9	1224.8			
10333	9	1198.0	10367	9	1225.6	10400	9	1252.4

Use check point at 10350 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 9600—9700 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
9600	9	593.9	9634	9	622.2	9668	9	650.4
9601	9	594.7	9635	9	623.0	9669	9	651.2
9602	9	595.5	9636	9	623.8			
9603	9	596.4	9637	9	624.6	9670	9	652.1
9604	9	597.2	9638	9	625.5	9671	9	652.9
9605	9	598.0	9639	9	626.3	9672	9	653.7
9606	9	598.9				9673	9	654.6
9607	9	599.7	9640	9	627.1	9674	9	655.4
9608	9	600.5	9641	9	628.0	9675	9	656.2
9609	9	601.4	9642	9	628.8	9676	9	657.1
			9643	9	629.6	9677	9	657.9
9610	9	602.2	9644	9	630.5	9678	9	658.7
9611	9	603.0	9645	9	631.3	9679	9	659.6
9612	9	603.9	9646	9	632.1			
9613	9	604.7	9647	9	633.0	9680	9	660.4
9614	9	605.5	9648	9	633.8	9681	9	661.2
9615	9	606.4	9649	9	634.6	9682	9	662.0
9616	9	607.2				9683	9	662.9
9617	9	608.0	9650	9	635.5	9684	9	663.7
9618	9	608.9	9651	9	636.3	9685	9	664.5
9619	9	609.7	9652	9	637.1	9686	9	665.4
			9653	9	637.9	9687	9	666.2
9620	9	610.5	9654	9	638.8	9688	9	667.0
9621	9	611.3	9655	9	639.6	9689	9	667.9
9622	9	612.2	9656	9	640.4			
9623	9	613.0	9657	9	641.3	9690	9	668.7
9624	9	613.8	9658	9	642.1	9691	9	669.5
9625	9	614.7	9659	9	642.9	9692	9	670.3
9626	9	615.5				9693	9	671.2
9627	9	616.3	9660	9	643.8	9694	9	672.0
9628	9	617.2	9661	9	644.6	9695	9	672.8
9629	9	618.0	9662	9	645.4	9696	9	673.7
			9663	9	646.3	9697	9	674.5
9630	9	618.8	9664	9	647.1	9698	9	675.3
9631	9	619.7	9665	9	647.9	9699	9	676.2
9632	9	620.5	9666	9	648.7			
9633	9	621.3	9667	9	649.6	9700	9	677.0

Use check point at 9450 or 9900 Kc, whichever is nearer

Frequency: 9800—9900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
9800	9	760.1	9834	9	788.3	9868	9	816.5
9801	9	761.0	9835	9	789.1	9869	9	817.3
9802	9	761.8	9836	9	790.0			
9803	9	762.6	9837	9	790.8	9870	9	818.1
9804	9	763.5	9838	9	791.6	9871	9	818.9
9805	9	764.3	9839	9	792.4	9872	9	819.8
9806	9	765.1				9873	9	820.6
9807	9	766.0	9840	9	793.3	9874	9	821.4
9808	9	766.8	9841	9	794.1	9875	9	822.3
9809	9	767.6	9842	9	794.9	9876	9	823.1
			9843	9	795.7	9877	9	823.9
9810	9	768.5	9844	9	796.6	9878	9	824.7
9811	9	769.3	9845	9	797.4	9879	9	825.6
9812	9	770.1	9846	9	798.2			
9813	9	770.9	9847	9	799.1	9880	9	826.4
9814	9	771.8	9848	9	799.9	9881	9	827.2
9815	9	772.6	9849	9	800.7	9882	9	828.1
9816	9	773.4				9883	9	828.9
9817	9	774.2	9850	9	801.5	9884	9	829.7
9818	9	775.1	9851	9	802.4	9885	9	830.6
9819	9	775.9	9852	9	803.2	9886	9	831.4
			9853	9	804.0	9887	9	832.2
9820	9	776.7	9854	9	804.8	9888	9	833.0
9821	9	777.5	9855	9	805.7	9889	9	833.9
9822	9	778.4	9856	9	806.5			
9823	9	779.2	9857	9	807.3	9890	9	834.7
9824	9	780.0	9858	9	808.2	9891	9	835.5
9825	9	780.9	9859	9	809.0	9892	9	836.4
9826	9	781.7				9893	9	837.2
9827	9	782.5	9860	9	809.8	9894	9	838.0
9828	9	783.3	9861	9	810.6	9895	9	838.9
9829	9	784.2	9862	9	811.5	9896	9	839.7
			9863	9	812.3	9897	9	840.5
9830	9	785.0	9864	9	813.1	9898	9	841.4
9831	9	785.8	9865	9	814.0	9899	9	842.2
9832	9	786.6	9866	9	814.8			
9833	9	787.5	9867	9	815.6	**9900**	**9**	**843.0**

Use check point at 9900 Kc

Frequency: 9700—9800 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
9700	9	677.0	9734	9	705.2	9768	9	733.5
9701	9	677.8	9735	9	706.0	9769	9	734.3
9702	9	678.6	9736	9	706.9			
9703	9	679.5	9737	9	707.7	9770	9	735.1
9704	9	680.3	9738	9	708.5	9771	9	736.0
9705	9	681.1	9739	9	709.4	9772	9	736.8
9706	9	682.0				9773	9	737.6
9707	9	682.8	9740	9	710.2	9774	9	738.5
9708	9	683.6	9741	9	711.0	9775	9	739.3
9709	9	684.5	9742	9	711.9	9776	9	740.1
			9743	9	712.7	9777	9	741.0
9710	9	685.3	9744	9	713.5	9778	9	741.8
9711	9	686.1	9745	9	714.4	9779	9	742.6
9712	9	686.9	9746	9	715.2			
9713	9	687.8	9747	9	716.0	9780	9	743.5
9714	9	688.6	9748	9	716.9	9781	9	744.3
9715	9	689.4	9749	9	717.7	9782	9	745.1
9716	9	690.3				9783	9	746.0
9717	9	691.1	9750	9	718.5	9784	9	746.8
9718	9	691.9	9751	9	719.3	9785	9	747.6
9719	9	692.8	9752	9	720.2	9786	9	748.5
			9753	9	721.0	9787	9	749.3
9720	9	693.6	9754	9	721.8	9788	9	750.1
9721	9	694.4	9755	9	722.7	9789	9	751.0
9722	9	695.2	9756	9	723.5			
9723	9	696.1	9757	9	724.3	9790	9	751.8
9724	9	696.9	9758	9	725.2	9791	9	752.6
9725	9	697.7	9759	9	726.0	9792	9	753.5
9726	9	698.6				9793	9	754.3
9727	9	699.4	9760	9	726.8	9794	9	755.1
9728	9	700.2	9761	9	727.7	9795	9	756.0
9729	9	701.1	9762	9	728.5	9796	9	756.8
			9763	9	729.3	9797	9	757.6
9730	9	701.9	9764	9	730.1	9798	9	758.5
9731	9	702.7	9765	9	731.0	9799	9	759.3
9732	9	703.6	9766	9	731.8			
9733	9	704.4	9767	9	732.6	9800	9	760.1

Use check point at 9900 Kc

Frequency: 9900—10000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
9900	**9**	**843.0**	9934	9	871.0	9968	9	899.1
9901	9	843.8	9935	9	871.9	9969	9	899.9
9902	9	844.7	9936	9	872.7			
9903	9	845.5	9937	9	873.5	9970	9	900.7
9904	9	846.3	9938	9	874.3	9971	9	901.6
9905	9	847.1	9939	9	875.2	9972	9	902.4
9906	9	847.9				9973	9	903.2
9907	9	848.8	9940	9	876.0	9974	9	904.0
9908	9	849.6	9941	9	876.8	9975	9	904.9
9909	9	850.4	9942	9	877.6	9976	9	905.7
			9943	9	878.5	9977	9	906.5
9910	9	851.2	9944	9	879.3	9978	9	907.3
9911	9	852.1	9945	9	880.1	9979	9	908.2
9912	9	852.9	9946	9	880.9			
9913	9	853.7	9947	9	881.8	9980	9	909.0
9914	9	854.5	9948	9	882.6	9981	9	909.8
9915	9	855.4	9949	9	883.4	9982	9	910.6
9916	9	856.2				9983	9	911.5
9917	9	857.0	9950	9	884.2	9984	9	912.3
9918	9	857.8	9951	9	885.1	9985	9	913.1
9919	9	858.7	9952	9	885.9	9986	9	913.9
			9953	9	886.7	9987	9	914.8
9920	9	859.5	9954	9	887.5	9988	9	915.6
9921	9	860.3	9955	9	888.4	9989	9	916.4
9922	9	861.1	9956	9	889.2			
9923	9	862.0	9957	9	890.0	9990	9	917.2
9924	9	862.8	9958	9	890.8	9991	9	918.1
9925	9	863.6	9959	9	891.7	9992	9	918.9
9926	9	864.4				9993	9	919.7
9927	9	865.3	9960	9	892.5	9994	9	920.5
9928	9	866.1	9961	9	893.3	9995	9	921.4
9929	9	866.9	9962	9	894.1	9996	9	922.2
			9963	9	895.0	9997	9	923.0
9930	9	867.7	9964	9	895.8	9998	9	923.8
9931	9	868.6	9965	9	896.6	9999	9	924.7
9932	9	869.4	9966	9	897.4			
9933	9	870.2	9967	9	898.3	10000	9	925.5

Use check point at 9900 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 10800—10900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
10800	**10**	**60.0**	10834	10	83.2	10868	10	106.3
10801	10	60.7	10835	10	83.8	10869	10	107.0
10802	10	61.4	10836	10	84.5			
10803	10	62.0	10837	10	85.2	10870	10	107.7
10804	10	62.7	10838	10	85.9	10871	10	108.4
10805	10	63.4	10839	10	86.6	10872	10	109.1
10806	10	64.1				10873	10	109.7
10807	10	64.8	10840	10	87.3	10874	10	110.4
10808	10	65.5	10841	10	87.9	10875	10	111.1
10809	10	66.1	10842	10	88.6	10876	10	111.8
			10843	10	89.3	10877	10	112.5
10810	10	66.8	10844	10	90.0	10878	10	113.1
10811	10	67.5	10845	10	90.7	10879	10	113.8
10812	10	68.2	10846	10	91.3			
10813	10	68.9	10847	10	92.0	10880	10	114.5
10814	10	69.5	10848	10	92.7	10881	10	115.2
10815	10	70.2	10849	10	93.4	10882	10	115.9
10816	10	70.9				10883	10	116.6
10817	10	71.6	10850	10	94.1	10884	10	117.2
10818	10	72.3	10851	10	94.7	10885	10	117.9
10819	10	72.9	10852	10	95.4	10886	10	118.6
			10853	10	96.1	10887	10	119.3
10820	10	73.6	10854	10	96.8	10888	10	120.0
10821	10	74.3	10855	10	97.5	10889	10	120.6
10822	10	75.0	10856	10	98.2			
10823	10	75.7	10857	10	98.8	10890	10	121.3
10824	10	76.4	10858	10	99.5	10891	10	122.0
10825	10	77.0	10859	10	100.2	10892	10	122.7
10826	10	77.7				10893	10	123.4
10827	10	78.4	10860	10	100.9	10894	10	124.0
10828	10	79.1	10861	10	101.6	10895	10	124.7
10829	10	79.8	10862	10	102.2	10896	10	125.4
			10863	10	102.9	10897	10	126.1
10830	10	80.4	10864	10	103.6	10898	10	126.7
10831	10	81.1	10865	10	104.3	10899	10	127.4
10832	10	81.8	10866	10	105.0			
10833	10	82.5	10867	10	105.6	10900	10	128.1

Use check point at 10800 Kc

Frequency: 10900—11000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
10900	10	128.1	10934	10	151.1	10968	10	174.1
10901	10	128.8	10935	10	151.8	10969	10	174.8
10902	10	129.4	10936	10	152.5			
10903	10	130.1	10937	10	153.2	10970	10	175.4
10904	10	130.8	10938	10	153.8	10971	10	176.1
10905	10	131.5	10939	10	154.5	10972	10	176.8
10906	10	132.2				10973	10	177.5
10907	10	132.8	10940	10	155.2	10974	10	178.1
10908	10	133.5	10941	10	155.9	10975	10	178.8
10909	10	134.2	10942	10	156.5	10976	10	179.5
			10943	10	157.2	10977	10	180.2
10910	10	134.9	10944	10	157.9	10978	10	180.8
10911	10	135.5	10945	10	158.6	10979	10	181.5
10912	10	136.2	10946	10	159.2			
10913	10	136.9	10947	10	159.9	10980	10	182.2
10914	10	137.6	10948	10	160.6	10981	10	182.9
10915	10	138.2	10949	10	161.3	10982	10	183.5
10916	10	138.9				10983	10	184.2
10917	10	139.6	10950	10	161.9	10984	10	184.9
10918	10	140.3	10951	10	162.6	10985	10	185.6
10919	10	141.0	10952	10	163.3	10986	10	186.2
			10953	10	164.0	10987	10	186.9
10920	10	141.6	10954	10	164.6	10988	10	187.6
10921	10	142.3	10955	10	165.3	10989	10	188.3
10922	10	143.0	10956	10	166.0			
10923	10	143.7	10957	10	166.7	10990	10	188.9
10924	10	144.3	10958	10	167.3	10991	10	189.6
10925	10	145.0	10959	10	168.0	10992	10	190.3
10926	10	145.7				10993	10	191.0
10927	10	146.4	10960	10	168.7	10994	10	191.6
10928	10	147.0	10961	10	169.4	10995	10	192.3
10929	10	147.7	10962	10	170.0	10996	10	193.0
			10963	10	170.7	10997	10	193.7
10930	10	148.4	10964	10	171.4	10998	10	194.3
10931	10	149.1	10965	10	172.1	10999	10	195.0
10932	10	149.8	10966	10	172.7			
10933	10	150.4	10967	10	173.4	11000	10	195.7

Use check point at 10800 Kc

Frequency: 11000—11100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
11000	10	195.7	11034	10	218.7	11068	10	241.6
11001	10	196.4	11035	10	219.3	11069	10	242.3
11002	10	197.1	11036	10	220.0			
11003	10	197.7	11037	10	220.7	11070	10	243.0
11004	10	198.4	11038	10	221.4	11071	10	243.6
11005	10	199.1	11039	10	222.0	11072	10	244.3
11006	10	199.8				11073	10	245.0
11007	10	200.4	11040	10	222.7	11074	10	245.7
11008	10	201.1	11041	10	223.4	11075	10	246.4
11009	10	201.8	11042	10	224.1	11076	10	247.0
			11043	10	224.7	11077	10	247.7
11010	10	202.5	11044	10	225.4	11078	10	248.4
11011	10	203.1	11045	10	226.1	11079	10	249.1
11012	10	203.8	11046	10	226.8			
11013	10	204.5	11047	10	227.4	11080	10	249.7
11014	10	205.2	11048	10	228.1	11081	10	250.4
11015	10	205.8	11049	10	228.8	11082	10	251.1
11016	10	206.5				11083	10	251.8
11017	10	207.2	11050	10	229.5	11084	10	252.5
11018	10	207.9	11051	10	230.1	11085	10	253.1
11019	10	208.5	11052	10	230.8	11086	10	253.8
			11053	10	231.5	11087	10	254.5
11020	10	209.2	11054	10	232.2	11088	10	255.2
11021	10	209.9	11055	10	232.8	11089	10	255.9
11022	10	210.6	11056	10	233.5			
11023	10	211.2	11057	10	234.2	11090	10	256.5
11024	10	211.9	11058	10	234.9	11091	10	257.2
11025	10	212.6	11059	10	235.5	11092	10	257.9
11026	10	213.3				11093	10	258.6
11027	10	213.9	11060	10	236.2	11094	10	259.2
11028	10	214.6	11061	10	236.9	11095	10	259.9
11029	10	215.3	11062	10	237.6	11096	10	260.6
			11063	10	238.2	11097	10	261.3
11030	10	216.0	11064	10	238.9	11098	10	262.0
11031	10	216.6	11065	10	239.6	11099	10	262.6
11032	10	217.3	11066	10	240.3			
11033	10	218.0	11067	10	240.9	11100	10	263.3

Use check point at 10800 or 11250 Kc, whichever is nearer

Frequency: 11100—11200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
11100	10	263.3	11134	10	286.3	11168	10	309.3
11101	10	264.0	11135	10	287.0	11169	10	310.0
11102	10	264.7	11136	10	287.7			
11103	10	265.4	11137	10	288.4	11170	10	310.7
11104	10	266.0	11138	10	289.0	11171	10	311.4
11105	10	266.7	11139	10	289.7	11172	10	312.1
11106	10	267.4				11173	10	312.7
11107	10	268.1	11140	10	290.4	11174	10	313.4
11108	10	268.7	11141	10	291.1	11175	10	314.1
11109	10	269.4	11142	10	291.7	11176	10	314.8
			11143	10	292.4	11177	10	315.4
11110	10	270.1	11144	10	293.1	11178	10	316.1
11111	10	270.8	11145	10	293.8	11179	10	316.8
11112	10	271.5	11146	10	294.4			
11113	10	272.1	11147	10	295.1	11180	10	317.5
11114	10	272.8	11148	10	295.8	11181	10	318.2
11115	10	273.5	11149	10	296.5	11182	10	318.8
11116	10	274.2				11183	10	319.5
11117	10	274.9	11150	10	297.1	11184	10	320.2
11118	10	275.5	11151	10	297.8	11185	10	320.9
11119	10	276.2	11152	10	298.5	11186	10	321.6
			11153	10	299.2	11187	10	322.2
11120	10	276.9	11154	10	299.8	11188	10	322.9
11121	10	277.6	11155	10	300.5	11189	10	323.6
11122	10	278.2	11156	10	301.2			
11123	10	278.9	11157	10	301.9	11190	10	324.3
11124	10	279.6	11158	10	302.5	11191	10	325.0
11125	10	280.3	11159	10	303.2	11192	10	325.6
11126	10	280.9				11193	10	326.3
11127	10	281.6	11160	10	303.9	11194	10	327.0
11128	10	282.3	11161	10	304.6	11195	10	327.7
11129	10	283.0	11162	10	305.3	11196	10	328.4
			11163	10	305.9	11197	10	329.0
11130	10	283.6	11164	10	306.6	11198	10	329.7
11131	10	284.3	11165	10	307.3	11199	10	330.4
11132	10	285.0	11166	10	308.0			
11133	10	285.7	11167	10	308.7	11200	10	331.1

Use check point at 11250 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 11200—11300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
11200	10	331.1	11234	10	354.2	11268	10	377.3
11201	10	331.8	11235	10	354.9	11269	10	378.0
11202	10	332.4	11236	10	355.6			
11203	10	333.1	11237	10	356.3	11270	10	378.7
11204	10	333.8	11238	10	357.0	11271	10	379.4
11205	10	334.5	11239	10	357.7	11272	10	380.1
11206	10	335.2				11273	10	380.7
11207	10	335.8	11240	10	358.3	11274	10	381.4
11208	10	336.5	11241	10	359.0	11275	10	382.1
11209	10	337.2	11242	10	359.7	11276	10	382.8
			11243	10	360.4	11277	10	383.4
11210	10	337.9	11244	10	361.1	11278	10	384.1
11211	10	338.6	11245	10	361.7	11279	10	384.8
11212	10	339.2	11246	10	362.4			
11213	10	339.9	11247	10	363.1	11280	10	385.5
11214	10	340.6	11248	10	363.8	11281	10	386.1
11215	10	341.3	11249	10	364.5	11282	10	386.8
11216	10	342.0				11283	10	387.5
11217	10	342.7	**11250**	**10**	**365.2**	11284	10	388.2
11218	10	343.3	11251	10	365.8	11285	10	388.8
11219	10	344.0	11252	10	366.5	11286	10	389.5
			11253	10	367.2	11287	10	390.2
11220	10	344.7	11254	10	367.9	11288	10	390.9
11221	10	345.4	11255	10	368.5	11289	10	391.6
11222	10	346.1	11256	10	369.2			
11223	10	346.7	11257	10	369.9	11290	10	392.2
11224	10	347.4	11258	10	370.6	11291	10	392.9
11225	10	348.1	11259	10	371.3	11292	10	393.6
11226	10	348.8				11293	10	394.3
11227	10	349.5	11260	10	371.9	11294	10	394.9
11228	10	350.2	11261	10	372.6	11295	10	395.6
11229	10	350.8	11262	10	373.3	11296	10	396.3
			11263	10	374.0	11297	10	397.0
11230	10	351.5	11264	10	374.6	11298	10	397.7
11231	10	352.2	11265	10	375.3	11299	10	398.4
11232	10	352.9	11266	10	376.0			
11233	10	353.6	11267	10	376.7	11300	10	399.0

Use check point at 11250 Kc

Frequency: 11300—11400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
11300	10	399.0	11334	10	422.3	11368	10	445.6
11301	10	399.7	11335	10	423.0	11369	10	446.3
11302	10	400.4	11336	10	423.6			
11303	10	401.1	11337	10	424.3	11370	10	446.9
11304	10	401.8	11338	10	425.0	11371	10	447.6
11305	10	402.5	11339	10	425.7	11372	10	448.3
11306	10	403.1				11373	10	449.0
11307	10	403.8	11340	10	426.4	11374	10	449.7
11308	10	404.5	11341	10	427.1	11375	10	450.4
11309	10	405.2	11342	10	427.7	11376	10	451.1
			11343	10	428.4	11377	10	451.7
11310	10	405.9	11344	10	429.1	11378	10	452.4
11311	10	406.6	11345	10	429.8	11379	10	453.1
11312	10	407.2	11346	10	430.5			
11313	10	407.9	11347	10	431.2	11380	10	453.8
11314	10	408.6	11348	10	431.9	11381	10	454.5
11315	10	409.3	11349	10	432.5	11382	10	455.2
11316	10	410.0				11383	10	455.9
11317	10	410.7	11350	10	433.2	11384	10	456.5
11318	10	411.3	11351	10	433.9	11385	10	457.2
11319	10	412.0	11352	10	434.6	11386	10	457.9
			11353	10	435.3	11387	10	458.6
11320	10	412.7	11354	10	436.0	11388	10	459.3
11321	10	413.4	11355	10	436.7	11389	10	460.0
11322	10	414.1	11356	10	437.3			
11323	10	414.8	11357	10	438.0	11390	10	460.6
11324	10	415.4	11358	10	438.7	11391	10	461.3
11325	10	416.1	11359	10	439.4	11392	10	462.0
11326	10	416.8				11393	10	462.7
11327	10	417.5	11360	10	440.1	11394	10	463.4
11328	10	418.2	11361	10	440.8	11395	10	464.0
11329	10	418.9	11362	10	441.5	11396	10	464.7
			11363	10	442.1	11397	10	465.4
11330	10	419.5	11364	10	442.8	11398	10	466.1
11331	10	420.2	11365	10	443.5	11399	10	466.7
11332	10	420.9	11366	10	444.2			
11333	10	421.6	11367	10	444.9	11400	10	467.4

Use check point at 11250 Kc

Frequency: 11400—11500 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
11400	10	467.4	11434	10	490.6	11468	10	514.1
11401	10	468.1	11435	10	491.3	11469	10	514.8
11402	10	468.8	11436	10	492.0			
11403	10	469.5	11437	10	492.7	11470	10	515.5
11404	10	470.1	11438	10	493.3	11471	10	516.2
11405	10	470.8	11439	10	494.0	11472	10	516.8
11406	10	471.5				11473	10	517.5
11407	10	472.2	11440	10	494.7	11474	10	518.2
11408	10	472.9	11441	10	495.4	11475	10	518.9
11409	10	473.5	11442	10	496.1	11476	10	519.6
			11443	10	496.8	11477	10	520.3
11410	10	474.2	11444	10	497.5	11478	10	521.0
11411	10	474.9	11445	10	498.2	11479	10	521.7
11412	10	475.6	11446	10	498.9			
11413	10	476.3	11447	10	499.6	11480	10	522.3
11414	10	476.9	11448	10	500.3	11481	10	523.0
11415	10	477.6	11449	10	501.0	11482	10	523.7
11416	10	478.3				11483	10	524.4
11417	10	479.0	11450	10	501.6	11484	10	525.1
11418	10	479.7	11451	10	502.3	11485	10	525.8
11419	10	480.3	11452	10	503.0	11486	10	526.4
			11453	10	503.7	11487	10	527.1
11420	10	481.0	11454	10	504.4	11488	10	527.8
11421	10	481.7	11455	10	505.1	11489	10	528.5
11422	10	482.4	11456	10	505.8			
11423	10	483.1	11457	10	506.5	11490	10	529.2
11424	10	483.7	11458	10	507.2	11491	10	529.9
11425	10	484.4	11459	10	507.9	11492	10	530.6
11426	10	485.1				11493	10	531.2
11427	10	485.8	11460	10	508.6	11494	10	531.9
11428	10	486.5	11461	10	509.2	11495	10	532.6
11429	10	487.1	11462	10	509.9	11496	10	533.3
			11463	10	510.6	11497	10	534.0
11430	10	487.8	11464	10	511.3	11498	10	534.7
11431	10	488.5	11465	10	512.0	11499	10	535.3
11432	10	489.2	11466	10	512.7			
11433	10	489.9	11467	10	513.4	11500	10	536.0

Use check point at 11250 or 11700 Kc, whichever is nearer

Frequency: 11500—11600 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
11500	10	536.0	11534	10	559.3	11568	10	582.6
11501	10	536.7	11535	10	560.0	11569	10	583.3
11502	10	537.4	11536	10	560.7			
11503	10	538.1	11537	10	561.4	11570	10	584.0
11504	10	538.8	11538	10	562.1	11571	10	584.7
11505	10	539.5	11539	10	562.7	11572	10	585.4
11506	10	540.1				11573	10	586.1
11507	10	540.8	11540	10	563.4	11574	10	586.8
11508	10	541.5	11541	10	564.1	11575	10	587.5
11509	10	542.2	11542	10	564.8	11576	10	588.2
			11543	10	565.5	11577	10	588.8
11510	10	542.9	11544	10	566.2	11578	10	589.5
11511	10	543.6	11545	10	566.9	11579	10	590.2
11512	10	544.2	11546	10	567.5			
11513	10	544.9	11547	10	568.2	11580	10	590.9
11514	10	545.6	11548	10	568.9	11581	10	591.6
11515	10	546.3	11549	10	569.6	11582	10	592.3
11516	10	547.0				11583	10	593.0
11517	10	547.7	11550	10	570.3	11584	10	593.7
11518	10	548.3	11551	10	571.0	11585	10	594.4
11519	10	549.0	11552	10	571.7	11586	10	595.0
			11553	10	572.3	11587	10	595.7
11520	10	549.7	11554	10	573.0	11588	10	596.4
11521	10	550.4	11555	10	573.7	11589	10	597.1
11522	10	551.1	11556	10	574.4			
11523	10	551.8	11557	10	575.1	11590	10	597.8
11524	10	552.5	11558	10	575.8	11591	10	598.5
11525	10	553.1	11559	10	576.5	11592	10	599.2
11526	10	553.8				11593	10	599.9
11527	10	554.5	11560	10	577.1	11594	10	600.6
11528	10	555.2	11561	10	577.8	11595	10	601.2
11529	10	555.9	11562	10	578.5	11596	10	601.9
			11563	10	579.2	11597	10	602.6
11530	10	556.6	11564	10	579.9	11598	10	603.3
11531	10	557.3	11565	10	580.6	11599	10	604.0
11532	10	557.9	11566	10	581.3			
11533	10	558.6	11567	10	582.0	11600	10	604.7

Use check point at 11700 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 12400—12500 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12400	11	345.8	12434	11	366.8	12468	11	387.7
12401	11	346.5	12435	11	367.4	12469	11	388.3
12402	11	347.1	12436	11	368.0			
12403	11	347.7	12437	11	368.6	12470	11	388.9
12404	11	348.3	12438	11	369.2	12471	11	389.5
12405	11	348.9	12439	11	369.8	12472	11	390.1
12406	11	349.5				12473	11	390.8
12407	11	350.1	12440	11	370.4	12474	11	391.4
12408	11	350.8	12441	11	371.1	12475	11	392.0
12409	11	351.4	12442	11	371.7	12476	11	392.6
			12443	11	372.3	12477	11	393.2
12410	11	352.0	12444	11	372.9	12478	11	393.8
12411	11	352.6	12445	11	373.5	12479	11	394.4
12412	11	353.2	12446	11	374.1			
12413	11	353.8	12447	11	374.8	12480	11	395.1
12414	11	354.5	12448	11	375.4	12481	11	395.7
12415	11	355.1	12449	11	376.0	12482	11	396.3
12416	11	355.7				12483	11	396.9
12417	11	356.3	12450	11	376.6	12484	11	397.5
12418	11	356.9	12451	11	377.2	12485	11	398.2
12419	11	357.5	12452	11	377.8	12486	11	398.8
			12453	11	378.4	12487	11	399.4
12420	11	358.1	12454	11	379.1	12488	11	400.0
12421	11	358.8	12455	11	379.7	12489	11	400.7
12422	11	359.4	12456	11	380.3			
12423	11	360.0	12457	11	380.9	12490	11	401.3
12424	11	360.6	12458	11	381.5	12491	11	401.9
12425	11	361.2	12459	11	382.1	12492	11	402.5
12426	11	361.8				12493	11	403.1
12427	11	362.4	12460	11	382.8	12494	11	403.8
12428	11	363.1	12461	11	383.4	12495	11	404.4
12429	11	363.7	12462	11	384.0	12496	11	405.0
			12463	11	384.6	12497	11	405.6
12430	11	364.3	12464	11	385.2	12498	11	406.2
12431	11	364.9	12465	11	385.8	12499	11	406.9
12432	11	365.5	12466	11	386.4			
12433	11	366.1	12467	11	387.1	12500	11	407.5

Use check point at 12600 Kc

Frequency: 12600—12700 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12600	**11**	**469.6**	12634	11	490.6	12668	11	511.7
12601	11	470.2	12635	11	491.2	12669	11	512.3
12602	11	470.8	12636	11	491.9			
12603	11	471.4	12637	11	492.5	12670	11	513.0
12604	11	472.1	12638	11	493.1	12671	11	513.6
12605	11	472.7	12639	11	493.7	12672	11	514.2
12606	11	473.3				12673	11	514.8
12607	11	473.9	12640	11	494.3	12674	11	515.4
12608	11	474.5	12641	11	495.0	12675	11	516.1
12609	11	475.2	12642	11	495.6	12676	11	516.7
			12643	11	496.2	12677	11	517.3
12610	11	475.8	12644	11	496.8	12678	11	517.9
12611	11	476.4	12645	11	497.4	12679	11	518.6
12612	11	477.0	12646	11	498.1			
12613	11	477.6	12647	11	498.7	12680	11	519.2
12614	11	478.2	12648	11	499.3	12681	11	519.8
12615	11	478.9	12649	11	499.9	12682	11	520.4
12616	11	479.5				12683	11	521.1
12617	11	480.1	12650	11	500.5	12684	11	521.7
12618	11	480.7	12651	11	501.1	12685	11	522.3
12619	11	481.3	12652	11	501.8	12686	11	522.9
			12653	11	502.4	12687	11	523.6
12620	11	482.0	12654	11	503.0	12688	11	524.2
12621	11	482.6	12655	11	503.6	12689	11	524.8
12622	11	483.2	12656	11	504.2			
12623	11	483.8	12657	11	504.9	12690	11	525.4
12624	11	484.4	12658	11	505.5	12691	11	526.0
12625	11	485.1	12659	11	506.1	12692	11	526.7
12626	11	485.7				12693	11	527.3
12627	11	486.3	12660	11	506.7	12694	11	527.9
12628	11	486.9	12661	11	507.3	12695	11	528.5
12629	11	487.5	12662	11	508.0	12696	11	529.2
			12663	11	508.6	12697	11	529.8
12630	11	488.2	12664	11	509.2	12698	11	530.4
12631	11	488.8	12665	11	509.8	12699	11	531.0
12632	11	489.4	12666	11	510.5			
12633	11	490.0	12667	11	511.1	12700	11	531.7

Use check point at 12600 Kc

Frequency: 12500—12600 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12500	11	407.5	12534	11	428.6	12568	11	449.7
12501	11	408.1	12535	11	429.2	12569	11	450.3
12502	11	408.7	12536	11	429.9			
12503	11	409.4	12537	11	430.5	12570	11	451.0
12504	11	410.0	12538	11	431.1	12571	11	451.6
12505	11	410.6	12539	11	431.7	12572	11	452.2
12506	11	411.2				12573	11	452.8
12507	11	411.8	12540	11	432.3	12574	11	453.4
12508	11	412.5	12541	11	433.0	12575	11	454.1
12509	11	413.1	12542	11	433.6	12576	11	454.7
			12543	11	434.2	12577	11	455.3
12510	11	413.7	12544	11	434.8	12578	11	455.9
12511	11	414.3	12545	11	435.4	12579	11	456.5
12512	11	414.9	12546	11	436.1			
12513	11	415.6	12547	11	436.7	12580	11	457.2
12514	11	416.2	12548	11	437.3	12581	11	457.8
12515	11	416.8	12549	11	437.9	12582	11	458.4
12516	11	417.4				12583	11	459.0
12517	11	418.0	12550	11	438.5	12584	11	459.6
12518	11	418.7	12551	11	439.2	12585	11	460.3
12519	11	419.3	12552	11	439.8	12586	11	460.9
			12553	11	440.4	12587	11	461.5
12520	11	419.9	12554	11	441.0	12588	11	462.1
12521	11	420.5	12555	11	441.7	12589	11	462.8
12522	11	421.2	12556	11	442.3			
12523	11	421.8	12557	11	442.9	12590	11	463.4
12524	11	422.4	12558	11	443.5	12591	11	464.0
12525	11	423.0	12559	11	444.1	12592	11	464.6
12526	11	423.6				12593	11	465.2
12527	11	424.3	12560	11	444.8	12594	11	465.9
12528	11	424.9	12561	11	445.4	12595	11	466.5
12529	11	425.5	12562	11	446.0	12596	11	467.1
			12563	11	446.6	12597	11	467.7
12530	11	426.1	12564	11	447.2	12598	11	468.3
12531	11	426.7	12565	11	447.9	12599	11	469.0
12532	11	427.4	12566	11	448.5			
12533	11	428.0	12567	11	449.1	**12600**	**11**	**469.6**

Use check point at 12600 Kc

Frequency: 12700—12800 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12700	11	531.7	12734	11	552.8	12768	11	574.0
12701	11	532.3	12735	11	553.4	12769	11	574.6
12702	11	532.9	12736	11	554.1			
12703	11	533.5	12737	11	554.7	12770	11	575.2
12704	11	534.1	12738	11	555.3	12771	11	575.8
12705	11	534.8	12739	11	555.9	12772	11	576.4
12706	11	535.4				12773	11	577.1
12707	11	536.0	12740	11	556.6	12774	11	577.7
12708	11	536.6	12741	11	557.2	12775	11	578.3
12709	11	537.3	12742	11	557.8	12776	11	578.9
			12743	11	558.4	12777	11	579.6
12710	11	537.9	12744	11	559.0	12778	11	580.2
12711	11	538.5	12745	11	559.7	12779	11	580.8
12712	11	539.1	12746	11	560.3			
12713	11	539.8	12747	11	560.9	12780	11	581.4
12714	11	540.4	12748	11	561.5	12781	11	582.0
12715	11	541.0	12749	11	562.1	12782	11	582.7
12716	11	541.6				12783	11	583.3
12717	11	542.3	12750	11	562.8	12784	11	583.9
12718	11	542.9	12751	11	563.4	12785	11	584.5
12719	11	543.5	12752	11	564.0	12786	11	585.2
			12753	11	564.6	12787	11	585.8
12720	11	544.1	12754	11	565.3	12788	11	586.4
12721	11	544.7	12755	11	565.9	12789	11	587.0
12722	11	545.4	12756	11	566.5			
12723	11	546.0	12757	11	567.1	12790	11	587.7
12724	11	546.6	12758	11	567.7	12791	11	588.3
12725	11	547.2	12759	11	568.4	12792	11	588.9
12726	11	547.9				12793	11	589.5
12727	11	548.5	12760	11	569.0	12794	11	590.2
12728	11	549.1	12761	11	569.6	12795	11	590.8
12729	11	549.7	12762	11	570.2	12796	11	591.4
			12763	11	570.9	12797	11	592.0
12730	11	550.3	12764	11	571.5	12798	11	592.6
12731	11	551.0	12765	11	572.1	12799	11	593.3
12732	11	551.6	12766	11	572.7			
12733	11	552.2	12767	11	573.3	12800	11	593.9

Use check point at 12600 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 12000—12100 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12000	**11**	**100.1**	12034	11	121.1	12068	11	142.1
12001	11	100.8	12035	11	121.7	12069	11	142.7
12002	11	101.4	12036	11	122.3			
12003	11	102.0	12037	11	123.0	12070	11	143.3
12004	11	102.6	12038	11	123.6	12071	11	143.9
12005	11	103.2	12039	11	124.2	12072	11	144.5
12006	11	103.8				12073	11	145.1
12007	11	104.5	12040	11	124.8	12074	11	145.7
12008	11	105.1	12041	11	125.4	12075	11	146.4
12009	11	105.7	12042	11	126.0	12076	11	147.0
			12043	11	126.7	12077	11	147.6
12010	11	106.3	12044	11	127.3	12078	11	148.2
12011	11	106.9	12045	11	127.9	12079	11	148.8
12012	11	107.5	12046	11	128.5			
12013	11	108.2	12047	11	129.1	12080	11	149.4
12014	11	108.8	12048	11	129.7	12081	11	150.0
12015	11	109.4	12049	11	130.4	12082	11	150.6
12016	11	110.0				12083	11	151.3
12017	11	110.6	12050	11	131.0	12084	11	151.9
12018	11	111.2	12051	11	131.6	12085	11	152.5
12019	11	111.9	12052	11	132.2	12086	11	153.1
			12053	11	132.8	12087	11	153.7
12020	11	112.5	12054	11	133.4	12088	11	154.3
12021	11	113.1	12055	11	134.1	12089	11	154.9
12022	11	113.7	12056	11	134.7			
12023	11	114.3	12057	11	135.3	12090	11	155.6
12024	11	114.9	12058	11	135.9	12091	11	156.2
12025	11	115.6	12059	11	136.5	12092	11	156.8
12026	11	116.2				12093	11	157.4
12027	11	116.8	12060	11	137.1	12094	11	158.0
12028	11	117.4	12061	11	137.8	12095	11	158.6
12029	11	118.0	12062	11	138.4	12096	11	159.2
			12063	11	139.0	12097	11	159.9
12030	11	118.6	12064	11	139.6	12098	11	160.5
12031	11	119.3	12065	11	140.2	12099	11	161.1
12032	11	119.9	12066	11	140.8			
12033	11	120.5	12067	11	141.4	12100	11	161.7

Use check point at 12000 Kc

Frequency: 12100—12200 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12100	11	161.7	12134	11	182.5	12168	11	203.4
12101	11	162.3	12135	11	183.2	12169	11	204.0
12102	11	162.9	12136	11	183.8			
12103	11	163.5	12137	11	184.4	12170	11	204.6
12104	11	164.2	12138	11	185.0	12171	11	205.2
12105	11	164.8	12139	11	185.6	12172	11	205.8
12106	11	165.4				12173	11	206.4
12107	11	166.0	12140	11	186.2	12174	11	207.0
12108	11	166.6	12141	11	186.8	12175	11	207.6
12109	11	167.2	12142	11	187.4	12176	11	208.3
			12143	11	188.1	12177	11	208.9
12110	11	167.8	12144	11	188.7	12178	11	209.5
12111	11	168.5	12145	11	189.3	12179	11	210.1
12112	11	169.1	12146	11	189.9			
12113	11	169.7	12147	11	190.5	12180	11	210.7
12114	11	170.3	12148	11	191.1	12181	11	211.3
12115	11	170.9	12149	11	191.7	12182	11	211.9
12116	11	171.5				12183	11	212.5
12117	11	172.1	12150	11	192.3	12184	11	213.1
12118	11	172.8	12151	11	193.0	12185	11	213.8
12119	11	173.4	12152	11	193.6	12186	11	214.4
			12153	11	194.2	12187	11	215.0
12120	11	174.0	12154	11	194.8	12188	11	215.6
12121	11	174.6	12155	11	195.4	12189	11	216.2
12122	11	175.2	12156	11	196.0			
12123	11	175.8	12157	11	196.6	12190	11	216.8
12124	11	176.4	12158	11	197.2	12191	11	217.4
12125	11	177.0	12159	11	197.8	12192	11	218.0
12126	11	177.7				12193	11	218.7
12127	11	178.3	12160	11	198.5	12194	11	219.3
12128	11	178.9	12161	11	199.1	12195	11	219.9
12129	11	179.5	12162	11	199.7	12196	11	220.5
			12163	11	200.3	12197	11	221.1
12130	11	180.1	12164	11	200.9	12198	11	221.7
12131	11	180.7	12165	11	201.5	12199	11	222.3
12132	11	181.3	12166	11	202.1			
12133	11	181.9	12167	11	202.7	12200	11	222.9

Use check point at 12000 Kc

Frequency: 12200—12300 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12200	11	222.9	12234	11	243.8	12268	11	264.6
12201	11	223.6	12235	11	244.4	12269	11	265.3
12202	11	224.2	12236	11	245.0			
12203	11	224.8	12237	11	245.6	12270	11	265.9
12204	11	225.4	12238	11	246.2	12271	11	266.5
12205	11	226.0	12239	11	246.8	12272	11	267.1
12206	11	226.6				12273	11	267.7
12207	11	227.2	12240	11	247.4	12274	11	268.3
12208	11	227.8	12241	11	248.1	12275	11	268.9
12209	11	228.5	12242	11	248.7	12276	11	269.6
			12243	11	249.3	12277	11	270.2
12210	11	229.1	12244	11	249.9	12278	11	270.8
12211	11	229.7	12245	11	250.5	12279	11	271.4
12212	11	230.3	12246	11	251.1			
12213	11	230.9	12247	11	251.7	12280	11	272.0
12214	11	231.5	12248	11	252.4	12281	11	272.6
12215	11	232.1	12249	11	253.0	12282	11	273.2
12216	11	232.7				12283	11	273.9
12217	11	233.4	12250	11	253.6	12284	11	274.5
12218	11	234.0	12251	11	254.2	12285	11	275.1
12219	11	234.6	12252	11	254.8	12286	11	275.7
			12253	11	255.4	12287	11	276.3
12220	11	235.2	12254	11	256.0	12288	11	276.9
12221	11	235.8	12255	11	256.7	12289	11	277.5
12222	11	236.4	12256	11	257.3			
12223	11	237.0	12257	11	257.9	12290	11	278.2
12224	11	237.6	12258	11	258.5	12291	11	278.8
12225	11	238.3	12259	11	259.1	12292	11	279.4
12226	11	238.9				12293	11	280.0
12227	11	239.5	12260	11	259.7	12294	11	280.6
12228	11	240.1	12261	11	260.3	12295	11	281.2
12229	11	240.7	12262	11	261.0	12296	11	281.8
			12263	11	261.6	12297	11	282.5
12230	11	241.3	12264	11	262.2	12298	11	283.1
12231	11	241.9	12265	11	262.8	12299	11	283.7
12232	11	242.5	12266	11	263.4			
12233	11	243.2	12267	11	264.0	12300	11	284.3

Use check point at 12000 Kc

Frequency: 12300—12400 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
12300	11	284.3	12334	11	305.2	12368	11	326.2
12301	11	284.9	12335	11	305.8	12369	11	326.8
12302	11	285.5	12336	11	306.5			
12303	11	286.1	12337	11	307.1	12370	11	327.4
12304	11	286.8	12338	11	307.7	12371	11	328.0
12305	11	287.4	12339	11	308.3	12372	11	328.6
12306	11	288.0				12373	11	329.2
12307	11	288.6	12340	11	308.9	12374	11	329.9
12308	11	289.2	12341	11	309.5	12375	11	330.5
12309	11	289.8	12342	11	310.2	12376	11	331.1
			12343	11	310.8	12377	11	331.7
12310	11	290.5	12344	11	311.4	12378	11	332.3
12311	11	291.1	12345	11	312.0	12379	11	332.9
12312	11	291.7	12346	11	312.6			
12313	11	292.3	12347	11	313.2	12380	11	333.5
12314	11	292.9	12348	11	313.9	12381	11	334.2
12315	11	293.5	12349	11	314.5	12382	11	334.8
12316	11	294.2				12383	11	335.4
12317	11	294.8	12350	11	315.1	12384	11	336.0
12318	11	295.4	12351	11	315.7	12385	11	336.6
12319	11	296.0	12352	11	316.3	12386	11	337.2
			12353	11	316.9	12387	11	337.8
12320	11	296.6	12354	11	317.5	12388	11	338.5
12321	11	297.2	12355	11	318.2	12389	11	339.1
12322	11	297.8	12356	11	318.8			
12323	11	298.5	12357	11	319.4	12390	11	339.7
12324	11	299.1	12358	11	320.0	12391	11	340.3
12325	11	299.7	12359	11	320.6	12392	11	340.9
12326	11	300.3				12393	11	341.5
12327	11	300.9	12360	11	321.2	12394	11	342.2
12328	11	301.5	12361	11	321.9	12395	11	342.8
12329	11	302.2	12362	11	322.5	12396	11	343.4
			12363	11	323.1	12397	11	344.0
12330	11	302.8	12364	11	323.7	12398	11	344.6
12331	11	303.4	12365	11	324.3	12399	11	345.2
12332	11	304.0	12366	11	324.9			
12333	11	304.6	12367	11	325.5	12400	11	345.8

Use check point at 12600 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 13200—13300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
13200	**11**	**843.0**	13234	11	864.0	13268	11	885.1
13201	11	843.6	13235	11	864.7	13269	11	885.7
13202	11	844.2	13236	11	865.3			
13203	11	844.9	13237	11	865.9	13270	11	886.3
13204	11	845.5	13238	11	866.5	13271	11	886.9
13205	11	846.1	13239	11	867.1	13272	11	887.5
13206	11	846.7				13273	11	888.2
13207	11	847.3	13240	11	867.7	13274	11	888.8
13208	11	848.0	13241	11	868.4	13275	11	889.4
13209	11	848.6	13242	11	869.0	13276	11	890.0
			13243	11	869.6	13277	11	890.6
13210	11	849.2	13244	11	870.2	13278	11	891.3
13211	11	849.8	13245	11	870.8	13279	11	891.9
13212	11	850.4	13246	11	871.5			
13213	11	851.0	13247	11	872.1	13280	11	892.5
13214	11	851.7	13248	11	872.7	13281	11	893.1
13215	11	852.3	13249	11	873.3	13282	11	893.7
13216	11	852.9				13283	11	894.3
13217	11	853.5	13250	11	873.9	13284	11	895.0
13218	11	854.1	13251	11	874.6	13285	11	895.6
13219	11	854.8	13252	11	875.2	13286	11	896.2
			13253	11	875.8	13287	11	896.8
13220	11	855.4	13254	11	876.4	13288	11	897.4
13221	11	856.0	13255	11	877.0	13289	11	898.1
13222	11	856.6	13256	11	877.6			
13223	11	857.2	13257	11	878.3	13290	11	898.7
13224	11	857.8	13258	11	878.9	13291	11	899.3
13225	11	858.5	13259	11	879.5	13292	11	899.9
13226	11	859.1				13293	11	900.5
13227	11	859.7	13260	11	880.1	13294	11	901.2
13228	11	860.3	13261	11	880.7	13295	11	901.8
13229	11	860.9	13262	11	881.4	13296	11	902.4
			13263	11	882.0	13297	11	903.0
13230	11	861.6	13264	11	882.6	13298	11	903.6
13231	11	862.2	13265	11	883.2	13299	11	904.2
13232	11	862.8	13266	11	883.8			
13233	11	863.4	13267	11	884.5	13300	11	904.9

Use check point at 13200 Kc

Frequency: 13300—13400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
13300	11	904.9	13334	11	925.9	13368	11	946.9
13301	11	905.5	13335	11	926.5	13369	11	947.5
13302	11	906.1	13336	11	927.1			
13303	11	906.7	13337	11	927.8	13370	11	948.2
13304	11	907.3	13338	11	928.4	13371	11	948.8
13305	11	908.0	13339	11	929.0	13372	11	949.4
13306	11	908.6				13373	11	950.0
13307	11	909.2	13340	11	929.6	13374	11	950.6
13308	11	909.8	13341	11	930.2	13375	11	951.2
13309	11	910.4	13342	11	930.8	13376	11	951.9
			13343	11	931.5	13377	11	952.5
13310	11	911.1	13344	11	932.1	13378	11	953.1
13311	11	911.7	13345	11	932.7	13379	11	953.7
13312	11	912.3	13346	11	933.3			
13313	11	912.9	13347	11	933.9	13380	11	954.3
13314	11	913.5	13348	11	934.6	13381	11	955.0
13315	11	914.1	13349	11	935.2	13382	11	955.6
13316	11	914.8				13383	11	856.2
13317	11	915.4	13350	11	935.8	13384	11	956.8
13318	11	916.0	13351	11	936.4	13385	11	957.4
13319	11	916.6	13352	11	937.0	13386	11	958.0
			13353	11	937.6	13387	11	958.6
13320	11	917.2	13354	11	938.3	13388	11	959.3
13321	11	917.9	13355	11	938.9	13389	11	959.9
13322	11	918.5	13356	11	939.5			
13323	11	919.1	13357	11	940.1	13390	11	960.5
13324	11	919.7	13358	11	940.7	13391	11	961.1
13325	11	920.3	13359	11	941.4	13392	11	961.7
13326	11	921.0				13393	11	962.3
13327	11	921.6	13360	11	942.0	13394	11	963.0
13328	11	922.2	13361	11	942.6	13395	11	963.6
13329	11	922.8	13362	11	943.2	13396	11	964.2
			13363	11	943.8	13397	11	964.8
13330	11	923.4	13364	11	944.4	13398	11	965.4
13331	11	924.0	13365	11	945.1	13399	11	966.0
13332	11	924.7	13366	11	945.7			
13333	11	925.3	13367	11	946.3	13400	11	966.6

Use check point at 13200 Kc

Frequency: 13400—13500 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
13400	11	966.6	13434	11	987.6	13468	11	1008.5
13401	11	967.3	13435	11	988.2	13469	11	1009.1
13402	11	967.9	13436	11	988.8			
13403	11	968.5	13437	11	989.4	13470	11	1009.8
13404	11	969.1	13438	11	990.0	13471	11	1010.4
13405	11	969.7	13439	11	990.6	13472	11	1011.0
13406	11	970.3				13473	11	1011.6
13407	11	970.9	13440	11	991.2	13474	11	1012.2
13408	11	971.6	13441	11	991.9	13475	11	1012.8
13409	11	972.2	13442	11	992.5	13476	11	1013.5
			13443	11	993.1	13477	11	1014.1
13410	11	972.8	13444	11	993.7	13478	11	1014.7
13411	11	973.4	13445	11	994.3	13479	11	1015.3
13412	11	974.0	13446	11	994.9			
13413	11	974.6	13447	11	995.6	13480	11	1015.9
13414	11	975.3	13448	11	996.2	13481	11	1016.5
13415	11	975.9	13449	11	996.8	13482	11	1017.2
13416	11	976.5				13483	11	1017.8
13417	11	977.1	13450	11	997.4	13484	11	1018.4
13418	11	977.7	13451	11	998.0	13485	11	1019.0
13419	11	978.3	13452	11	998.6	13486	11	1019.6
			13453	11	999.3	13487	11	1020.2
13420	11	978.9	13454	11	999.9	13488	11	1020.9
13421	11	979.6	13455	11	1000.5	13489	11	1021.5
13422	11	980.2	13456	11	1001.1			
13423	11	980.8	13457	11	1001.7	13490	11	1022.1
13424	11	981.4	13458	11	1002.3	13491	11	1022.7
13425	11	982.0	13459	11	1003.0	13492	11	1023.3
13426	11	982.6				13493	11	1023.9
13427	11	983.2	13460	11	1003.6	13494	11	1024.6
13428	11	983.9	13461	11	1004.2	13495	11	1025.2
13429	11	984.5	13462	11	1004.8	13496	11	1025.8
			13463	11	1005.4	13497	11	1026.4
13430	11	985.1	13464	11	1006.0	13498	11	1027.0
13431	11	985.7	13465	11	1006.7	13499	11	1027.6
13432	11	986.3	13466	11	1007.3			
13433	11	986.9	13467	11	1007.9	13500	11	1028.3

Use check point at 13200 Kc

Frequency: 13500—13600 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
13500	11	1028.3	13534	11	1049.2	13568	11	1070.1
13501	11	1028.9	13535	11	1049.8	13569	11	1070.8
13502	11	1029.5	13536	11	1050.5			
13503	11	1030.1	13537	11	1051.1	13570	11	1071.4
13504	11	1030.7	13538	11	1051.7	13571	11	1072.0
13505	11	1031.3	13539	11	1052.3	13572	11	1072.6
13506	11	1032.0				13573	11	1073.2
13507	11	1032.6	13540	11	1052.9	13574	11	1073.8
13508	11	1033.2	13541	11	1053.5	13575	11	1074.4
13509	11	1033.8	13542	11	1054.2	13576	11	1075.0
			13543	11	1054.8	13577	11	1075.6
13510	11	1034.4	13544	11	1055.4	13578	11	1076.3
13511	11	1035.0	13545	11	1056.0	13579	11	1076.9
13512	11	1035.7	13546	11	1056.6			
13513	11	1036.3	13547	11	1057.2	13580	11	1077.5
13514	11	1036.9	13548	11	1057.9	13581	11	1078.1
13515	11	1037.5	13549	11	1058.5	13582	11	1078.7
13516	11	1038.1				13583	11	1079.3
13517	11	1038.7	13550	11	1059.1	13584	11	1079.9
13518	11	1039.4	13551	11	1059.7	13585	11	1080.5
13519	11	1040.0	13552	11	1060.3	13586	11	1081.1
			13553	11	1060.9	13587	11	1081.8
13520	11	1040.6	13554	11	1061.6	13588	11	1082.4
13521	11	1041.2	13555	11	1062.2	13589	11	1083.0
13522	11	1041.8	13556	11	1062.8			
13523	11	1042.4	13557	11	1063.4	13590	11	1083.6
13524	11	1043.1	13558	11	1064.0	13591	11	1084.2
13525	11	1043.7	13559	11	1064.6	13592	11	1084.8
13526	11	1044.3				13593	11	1085.4
13527	11	1044.9	13560	11	1065.3	13594	11	1086.0
13528	11	1045.5	13561	11	1065.9	13595	11	1086.6
13529	11	1046.1	13562	11	1066.5	13596	11	1087.2
			13563	11	1067.1	13597	11	1087.9
13530	11	1046.8	13564	11	1067.7	13598	11	1088.5
13531	11	1047.4	13565	11	1068.3	13599	11	1089.1
13532	11	1048.0	13566	11	1068.9			
13533	11	1048.6	13567	11	1069.5	13600	11	1089.7

Use check point at 13800 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 12800—12900 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
12800	11	593.9	12834	11	615.1	12868	11	636.3
12801	11	594.5	12835	11	615.7	12869	11	636.9
12802	11	595.1	12836	11	616.3			
12803	11	595.8	12837	11	617.0	12870	11	637.5
12804	11	596.4	12838	11	617.6	12871	11	638.2
12805	11	597.0	12839	11	618.2	12872	11	638.8
12806	11	597.6				12873	11	639.4
12807	11	598.3	12840	11	618.8	12874	11	640.0
12808	11	598.9	12841	11	619.5	12875	11	640.7
12809	11	599.5	12842	11	620.1	12876	11	641.3
			12843	11	620.7	12877	11	641.9
12810	11	600.1	12844	11	621.3	12878	11	642.5
12811	11	600.8	12845	11	622.0	12879	11	643.2
12812	11	601.4	12846	11	622.6			
12813	11	602.0	12847	11	623.2	12880	11	643.8
12814	11	602.6	12848	11	623.8	12881	11	644.4
12815	11	603.2	12849	11	624.5	12882	11	645.0
12816	11	603.9				12883	11	645.6
12817	11	604.5	12850	11	625.1	12884	11	646.3
12818	11	605.1	12851	11	625.7	12885	11	646.9
12819	11	605.7	12852	11	626.3	12886	11	647.5
			12853	11	626.9	12887	11	648.1
12820	11	606.4	12854	11	627.6	12888	11	648.8
12821	11	607.0	12855	11	628.2	12889	11	649.4
12822	11	607.6	12856	11	628.8			
12823	11	608.2	12857	11	629.4	12890	11	650.0
12824	11	608.9	12858	11	630.1	12891	11	650.6
12825	11	609.5	12859	11	630.7	12892	11	651.3
12826	11	610.1				12893	11	651.9
12827	11	610.7	12860	11	631.3	12894	11	652.5
12828	11	611.4	12861	11	631.9	12895	11	653.1
12829	11	612.0	12862	11	632.6	12896	11	653.7
			12863	11	633.2	12897	11	654.4
12830	11	612.6	12864	11	633.8	12898	11	655.0
12831	11	613.2	12865	11	634.4	12899	11	655.6
12832	11	613.9	12866	11	635.0			
12833	11	614.5	12867	11	635.7	12900	11	656.2

Use check point at 12600 Kc

Frequency: 13000—13100 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
13000	11	718.5	13034	11	739.7	13068	11	761.0
13001	11	719.1	13035	11	740.4	13069	11	761.6
13002	11	719.8	13036	11	741.0			
13003	11	720.4	13037	11	741.6	13070	11	762.2
13004	11	721.0	13038	11	742.2	13071	11	762.8
13005	11	721.6	13039	11	742.8	13072	11	763.5
13006	11	722.3				13073	11	764.1
13007	11	722.9	13040	11	743.5	13074	11	764.7
13008	11	723.5	13041	11	744.1	13075	11	765.3
13009	11	724.1	13042	11	744.7	13076	11	766.0
			13043	11	745.3	13077	11	766.6
13010	11	724.7	13044	11	746.0	13078	11	767.2
13011	11	725.4	13045	11	746.6	13079	11	767.8
13012	11	726.0	13046	11	747.2			
13013	11	726.6	13047	11	747.8	13080	11	768.5
13014	11	727.2	13048	11	748.5	13081	11	769.1
13015	11	727.9	13049	11	749.1	13082	11	769.7
13016	11	728.5				13083	11	770.3
13017	11	729.1	13050	11	749.7	13084	11	770.9
13018	11	729.7	13051	11	750.3	13085	11	771.6
13019	11	730.4	13052	11	751.0	13086	11	772.2
			13053	11	751.6	13087	11	772.8
13020	11	731.0	13054	11	752.2	13088	11	773.4
13021	11	731.6	13055	11	752.8	13089	11	774.0
13022	11	732.2	13056	11	753.5			
13023	11	732.9	13057	11	754.1	13090	11	774.7
13024	11	733.5	13058	11	754.7	13091	11	775.3
13025	11	734.1	13059	11	755.3	13092	11	775.9
13026	11	734.7				13093	11	776.5
13027	11	735.4	13060	11	756.0	13094	11	777.1
13028	11	736.0	13061	11	756.6	13095	11	777.8
13029	11	736.6	13062	11	757.2	13096	11	778.4
			13063	11	757.8	13097	11	779.0
13030	11	737.2	13064	11	758.5	13098	11	779.6
13031	11	737.9	13065	11	759.1	13099	11	780.2
13032	11	738.5	13066	11	759.7			
13033	11	739.1	13067	11	760.3	13100	11	780.9

Use check point at 13200 Kc

Frequency: 12900—13000 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
12900	11	656.2	12934	11	677.4	12968	11	698.6
12901	11	656.9	12935	11	678.0	12969	11	699.2
12902	11	657.5	12936	11	678.6			
12903	11	658.1	12937	11	679.3	12970	11	699.8
12904	11	658.7	12938	11	679.9	12971	11	700.4
12905	11	659.4	12939	11	680.5	12972	11	701.1
12906	11	660.0				12973	11	701.7
12907	11	660.6	12940	11	681.1	12974	11	702.3
12908	11	661.2	12941	11	681.8	12975	11	702.9
12909	11	661.8	12942	11	682.4	12976	11	703.6
			12943	11	683.0	12977	11	704.2
12910	11	662.5	12944	11	683.6	12978	11	704.8
12911	11	663.1	12945	11	684.2	12979	11	705.4
12912	11	663.7	12946	11	684.9			
12913	11	664.3	12947	11	685.5	12980	11	706.0
12914	11	665.0	12948	11	686.1	12981	11	706.7
12915	11	665.6	12949	11	686.7	12982	11	707.3
12916	11	666.2				12983	11	707.9
12917	11	666.8	12950	11	687.4	12984	11	708.5
12918	11	667.4	12951	11	688.0	12895	11	709.2
12919	11	668.1	12952	11	688.6	12986	11	709.8
			12953	11	689.2	12987	11	710.4
12920	11	668.7	12954	11	689.8	12988	11	711.0
12921	11	669.3	12955	11	690.5	12989	11	711.7
12922	11	669.9	12956	11	691.1			
12923	11	670.6	12957	11	691.7	12990	11	712.3
12924	11	671.2	12958	11	692.3	12991	11	712.9
12925	11	671.8	12959	11	693.0	12992	11	713.5
12926	11	672.4				12993	11	714.2
12927	11	673.0	12960	11	693.6	12994	11	714.8
12928	11	673.7	12961	11	694.2	12995	11	715.4
12929	11	674.3	12962	11	694.8	12996	11	716.0
			12963	11	695.5	12997	11	716.6
12930	11	674.9	12964	11	696.1	12998	11	717.3
12931	11	675.5	12965	11	696.7	12999	11	717.9
12932	11	676.2	12966	11	697.3			
12933	11	676.8	12967	11	697.9	13000	11	718.5

Use check point at 13200 Kc

Frequency: 13100—13200 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B
13100	11	780.9	13134	11	802.0	13168	11	823.1
13101	11	781.5	13135	11	802.6	13169	11	823.7
13102	11	782.1	13136	11	803.2			
13103	11	782.7	13137	11	803.8	13170	11	824.3
13104	11	783.3	13138	11	804.4	13171	11	825.0
13105	11	784.0	13139	11	805.1	13172	11	825.6
13106	11	784.6				13173	11	826.2
13107	11	785.2	13140	11	805.7	13174	11	826.8
13108	11	785.8	13141	11	806.3	13175	11	827.5
13109	11	786.4	13142	11	806.9	13176	11	828.1
			13143	11	807.5	13177	11	828.7
13110	11	787.1	13144	11	808.2	13178	11	829.3
13111	11	787.7	13145	11	808.8	13179	11	829.9
13112	11	788.3	13146	11	809.4			
13113	11	788.9	13147	11	810.0	13180	11	830.6
13114	11	789.6	13148	11	810.7	13181	11	831.2
13115	11	790.2	13149	11	811.3	13182	11	831.8
13116	11	790.8				13183	11	832.4
13117	11	791.4	13150	11	811.9	13184	11	833.0
13118	11	792.0	13151	11	812.5	13185	11	833.7
13119	11	792.7	13152	11	813.1	13186	11	834.3
			13153	11	813.8	13187	11	834.9
13120	11	793.3	13154	11	814.4	13188	11	835.5
13121	11	793.9	13155	11	815.0	13189	11	836.2
13122	11	794.5	13156	11	815.6			
13123	11	795.1	13157	11	816.3	13190	11	836.8
13124	11	795.8	13158	11	816.9	13191	11	837.4
13125	11	796.4	13159	11	817.5	13192	11	838.0
13126	11	797.0				13193	11	838.6
13127	11	797.6	13160	11	818.1	13194	11	839.3
13128	11	798.2	13161	11	818.7	13195	11	839.9
13129	11	798.9	13162	11	819.4	13196	11	840.5
			13163	11	820.0	13197	11	841.1
13130	11	799.5	13164	11	820.6	13198	11	841.8
13131	11	800.1	13165	11	821.2	13199	11	842.4
13132	11	800.7	13166	11	821.9			
13133	11	801.3	13167	11	822.5	**13200**	**11**	**843.0**

Use check point at 13200 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 14000—14100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14000	11	1333.7	14034	11	1354.5	14068	11	1375.2
14001	11	1334.3	14035	11	1355.1	14069	11	1375.8
14002	11	1334.9	14036	11	1355.7			
14003	11	1335.6	14037	11	1356.3	14070	11	1376.4
14004	11	1336.2	14038	11	1356.9	14071	11	1377.0
14005	11	1336.8	14039	11	1357.5	14072	11	1377.6
14006	11	1337.4				14073	11	1378.2
14007	11	1338.0	14040	11	1358.1	14074	11	1378.8
14008	11	1338.6	14041	11	1358.7	14075	11	1379.4
14009	11	1339.2	14042	11	1359.3	14076	11	1380.0
			14043	11	1359.9	14077	11	1380.6
14010	11	1339.8	14044	11	1360.6	14078	11	1381.2
14011	11	1340.4	14045	11	1361.2	14079	11	1381.9
14012	11	1341.0	14046	11	1361.8			
14013	11	1341.7	14047	11	1362.4	14080	11	1382.5
14014	11	1342.3	14048	11	1363.0	14081	11	1383.1
14015	11	1342.9	14049	11	1363.6	14082	11	1383.7
14016	11	1343.5				14083	11	1384.3
14017	11	1344.1	14050	11	1364.2	14084	11	1384.9
14018	11	1344.7	14051	11	1364.8	14085	11	1385.5
14019	11	1345.3	14052	11	1365.4	14086	11	1386.1
			14053	11	1366.0	14087	11	1386.7
14020	11	1345.9	14054	11	1366.6	14088	11	1387.3
14021	11	1346.5	14055	11	1367.3	14089	11	1387.9
14022	11	1347.1	14056	11	1367.9			
14023	11	1347.8	14057	11	1368.5	14090	11	1388.6
14024	11	1348.4	14058	11	1369.1	14091	11	1389.2
14025	11	1349.0	14059	11	1369.7	14092	11	1389.8
14026	11	1349.6				14093	11	1390.4
14027	11	1350.2	14060	11	1370.3	14094	11	1391.0
14028	11	1350.8	14061	11	1370.9	14095	11	1391.6
14029	11	1351.4	14062	11	1371.5	14096	11	1392.2
			14063	11	1372.1	14097	11	1392.8
14030	11	1352.0	14064	11	1372.7	14098	11	1393.4
14031	11	1352.6	14065	11	1373.3	14099	11	1394.0
14032	11	1353.2	14066	11	1373.9			
14033	11	1353.9	14067	11	1374.6	14100	11	1394.6

Use check point at 13800 Kc

Frequency: 14200—14300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14200	11	1455.7	14234	11	1476.5	14268	11	1497.4
14201	11	1456.3	14235	11	1477.1	14269	11	1498.1
14202	11	1456.9	14236	11	1477.7			
14203	11	1457.5	14237	11	1478.3	14270	11	1498.7
14204	11	1458.1	14238	11	1479.0	14271	11	1499.3
14205	11	1458.7	14239	11	1479.6	14272	11	1499.9
14206	11	1459.3				14273	11	1500.5
14207	11	1460.0	14240	11	1480.2	14274	11	1501.1
14208	11	1460.6	14241	11	1480.8	14275	11	1501.8
14209	11	1461.2	14242	11	1481.4	14276	11	1502.4
			14243	11	1482.0	14277	11	1503.0
14210	11	1461.8	14244	11	1482.7	14278	11	1503.6
14211	11	1462.4	14245	11	1483.3	14279	11	1504.2
14212	11	1463.0	14246	11	1483.9			
14213	11	1463.6	14247	11	1484.5	14280	11	1504.8
14214	11	1464.2	14248	11	1485.1	14281	11	1505.5
14215	11	1464.8	14249	11	1485.7	14282	11	1506.1
14216	11	1465.4				14283	11	1506.7
14217	11	1466.0	14250	11	1486.4	14284	11	1507.3
14218	11	1466.6	14251	11	1487.0	14285	11	1507.9
14219	11	1467.3	14252	11	1487.6	14286	11	1508.5
			14253	11	1488.2	14287	11	1509.1
14220	11	1467.9	14254	11	1488.8	14288	11	1509.8
14221	11	1468.5	14255	11	1489.4	14289	11	1510.4
14222	11	1469.1	14256	11	1490.0			
14223	11	1469.7	14257	11	1490.7	14290	11	1511.0
14224	11	1470.3	14258	11	1491.3	14291	11	1511.6
14225	11	1470.9	14259	11	1491.9	14292	11	1512.2
14226	11	1471.6				14293	11	1512.8
14227	11	1472.2	14260	11	1492.5	14294	11	1513.4
14228	11	1472.8	14261	11	1493.1	14295	11	1514.1
14229	11	1473.4	14262	11	1493.7	14296	11	1514.7
			14263	11	1494.4	14297	11	1515.3
14230	11	1474.0	14264	11	1495.0	14298	11	1515.9
14231	11	1474.6	14265	11	1495.6	14299	11	1516.5
14232	11	1475.3	14266	11	1496.2			
14233	11	1475.9	14267	11	1496.8	14300	11	1517.1

Use check point at 14400 Kc

Frequency: 14100—14200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14100	11	1394.6	14134	11	1415.4	14168	11	1436.2
14101	11	1395.3	14135	11	1416.1	14169	11	1436.8
14102	11	1395.9	14136	11	1416.7			
14103	11	1396.5	14137	11	1417.3	14170	11	1437.4
14104	11	1397.1	14138	11	1417.9	14171	11	1438.1
14105	11	1397.7	14139	11	1418.5	14172	11	1438.7
14106	11	1398.3				14173	11	1439.3
14107	11	1398.9	14140	11	1419.1	14174	11	1439.9
14108	11	1399.5	14141	11	1419.7	14175	11	1440.5
14109	11	1400.1	14142	11	1420.3	14176	11	1441.1
			14143	11	1421.0	14177	11	1441.7
14110	11	1400.8	14144	11	1421.6	14178	11	1442.3
14111	11	1401.4	14145	11	1422.2	14179	11	1442.9
14112	11	1402.0	14146	11	1422.8			
14113	11	1402.6	14147	11	1423.4	14180	11	1443.5
14114	11	1403.2	14148	11	1424.0	14181	11	1444.1
14115	11	1403.8	14149	11	1424.6	14182	11	1444.7
14116	11	1404.4				14183	11	1445.4
14117	11	1405.0	14150	11	1425.2	14184	11	1446.0
14118	11	1405.7	14151	11	1425.9	14185	11	1446.6
14119	11	1406.3	14152	11	1426.5	14186	11	1447.2
			14153	11	1427.1	14187	11	1447.8
14120	11	1406.9	14154	11	1427.7	14188	11	1448.4
14121	11	1407.5	14155	11	1428.3	14189	11	1449.0
14122	11	1408.1	14156	11	1428.9			
14123	11	1408.7	14157	11	1429.5	14190	11	1449.6
14124	11	1409.3	14158	11	1430.1	14191	11	1450.2
14125	11	1409.9	14159	11	1430.7	14192	11	1450.8
14126	11	1410.6				14193	11	1451.4
14127	11	1411.2	14160	11	1431.4	14194	11	1452.0
14128	11	1411.8	14161	11	1432.0	14195	11	1452.7
14129	11	1412.4	14162	11	1432.6	14196	11	1453.3
			14163	11	1433.2	14197	11	1453.9
14130	11	1413.0	14164	11	1433.8	14198	11	1454.5
14131	11	1413.6	14165	11	1434.4	14199	11	1455.1
14132	11	1414.2	14166	11	1435.0			
14133	11	1414.8	14167	11	1435.6	14200	11	1455.7

Use check point at 14400 Kc

Frequency: 14300—14400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14300	11	1517.1	14334	11	1538.0	14368	11	1559.1
14301	11	1517.7	14335	11	1538.6	14369	11	1559.7
14302	11	1518.4	14336	11	1539.3			
14303	11	1519.0	14337	11	1539.9	14370	11	1560.3
14304	11	1519.6	14338	11	1540.5	14371	11	1560.9
14305	11	1520.2	14339	11	1541.1	14372	11	1561.5
14306	11	1520.8				14373	11	1562.1
14307	11	1521.4	14340	11	1541.7	14374	11	1562.8
14308	11	1522.1	14341	11	1542.3	14375	11	1563.4
14309	11	1522.7	14342	11	1543.0	14376	11	1564.0
			14343	11	1543.6	14377	11	1564.6
14310	11	1523.3	14344	11	1544.2	14378	11	1565.2
14311	11	1523.9	14345	11	1544.8	14379	11	1565.9
14312	11	1524.5	14346	11	1545.4			
14313	11	1525.1	14347	11	1546.1	14380	11	1566.5
14314	11	1525.7	14348	11	1546.7	14381	11	1567.1
14315	11	1526.4	14349	11	1547.3	14382	11	1567.7
14316	11	1527.0				14383	11	1568.3
14317	11	1527.6	14350	11	1547.9	14384	11	1569.0
14318	11	1528.2	14351	11	1548.5	14385	11	1569.6
14319	11	1528.8	14352	11	1549.1	14386	11	1570.2
			14353	11	1549.8	14387	11	1570.8
14320	11	1529.4	14354	11	1550.4	14388	11	1571.4
14321	11	1530.0	14355	11	1551.0	14389	11	1572.1
14322	11	1530.7	14356	11	1551.6			
14323	11	1531.3	14357	11	1552.2	14390	11	1572.7
14324	11	1531.9	14358	11	1552.9	14391	11	1573.3
14325	11	1532.5	14359	11	1553.5	14392	11	1573.9
14326	11	1533.1				14393	11	1574.5
14327	11	1533.7	14360	11	1554.1	14394	11	1575.1
14328	11	1534.3	14361	11	1554.7	14395	11	1575.8
14329	11	1535.0	14362	11	1555.3	14396	11	1576.4
			14363	11	1556.0	14397	11	1577.0
14330	11	1535.6	14364	11	1556.6	14398	11	1577.6
14331	11	1536.2	14365	11	1557.2	14399	11	1578.2
14332	11	1536.8	14366	11	1557.8			
14333	11	1537.4	14367	11	1558.4	**14400**	**11**	**1578.9**

Use check point at 14400 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 13600—13700 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
13600	11	1089.7	13634	11	1110.5	13668	11	1131.3
13601	11	1090.3	13635	11	1111.1	13669	11	1131.9
13602	11	1090.9	13636	11	1111.7			
13603	11	1091.5	13637	11	1112.3	13670	11	1132.5
13604	11	1092.1	13638	11	1112.9	13671	11	1133.1
13605	11	1092.7	13639	11	1113.5	13672	11	1133.7
13606	11	1093.4				13673	11	1134.3
13607	11	1094.0	13640	11	1114.1	13674	11	1134.9
13608	11	1094.6	13641	11	1114.8	13675	11	1135.6
13609	11	1095.2	13642	11	1115.4	13676	11	1136.2
			13643	11	1116.0	13677	11	1136.8
13610	11	1095.8	13644	11	1116.6	13678	11	1137.4
13611	11	1096.4	13645	11	1117.2	13679	11	1138.0
13612	11	1097.0	13646	11	1117.8			
13613	11	1097.6	13647	11	1118.4	13680	11	1138.6
13614	11	1098.2	13648	11	1119.0	13681	11	1139.2
13615	11	1098.9	13649	11	1119.6	13682	11	1139.8
13616	11	1099.5				13683	11	1140.4
13617	11	1100.1	13650	11	1120.3	13684	11	1141.1
13618	11	1100.7	13651	11	1120.9	13685	11	1141.7
13619	11	1101.3	13652	11	1121.5	13686	11	1142.3
			13653	11	1122.1	13687	11	1142.9
13620	11	1101.9	13654	11	1122.7	13688	11	1143.5
13621	11	1102.5	13655	11	1123.3	13689	11	1144.1
13622	11	1103.1	13656	11	1123.9			
13623	11	1103.7	13657	11	1124.5	13690	11	1144.7
13624	11	1104.4	13658	11	1125.2	13691	11	1145.3
13625	11	1105.0	13659	11	1125.8	13692	11	1145.9
13626	11	1105.6				13693	11	1146.5
13627	11	1106.2	13660	11	1126.4	13694	11	1147.2
13628	11	1106.8	13661	11	1127.0	13695	11	1147.8
13629	11	1107.4	13662	11	1127.6	13696	11	1148.4
			13663	11	1128.2	13697	11	1149.0
13630	11	1108.0	13664	11	1128.8	13698	11	1149.6
13631	11	1108.6	13665	11	1129.4	13699	11	1150.2
13632	11	1109.2	13666	11	1130.0			
13633	11	1109.9	13667	11	1130.7	13700	11	1150.8

Use check point at 13800 Kc

Frequency: 13700—13800 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
13700	11	1150.8	13734	11	1171.6	13768	11	1192.3
13701	11	1151.4	13735	11	1172.2	13769	11	1192.9
13702	11	1152.0	13736	11	1172.8			
13703	11	1152.6	13737	11	1173.4	13770	11	1193.5
13704	11	1153.3	13738	11	1174.0	13771	11	1194.1
13705	11	1153.9	13739	11	1174.6	13772	11	1194.7
13706	11	1154.5				13773	11	1195.3
13707	11	1155.1	13740	11	1175.2	13774	11	1195.9
13708	11	1155.7	13741	11	1175.8	13775	11	1196.6
13709	11	1156.3	13742	11	1176.4	13776	11	1197.2
			13743	11	1177.1	13777	11	1197.8
13710	11	1156.9	13744	11	1177.7	13778	11	1198.4
13711	11	1157.5	13745	11	1178.3	13779	11	1199.0
13712	11	1158.1	13746	11	1178.9			
13713	11	1158.8	13747	11	1179.5	13780	11	1199.6
13714	11	1159.4	13748	11	1180.1	13781	11	1200.2
13715	11	1160.0	13749	11	1180.7	13782	11	1200.8
13716	11	1160.6				13783	11	1201.4
13717	11	1161.2	13750	11	1181.3	13784	11	1202.0
13718	11	1161.8	13751	11	1181.9	13785	11	1202.6
13719	11	1162.4	13752	11	1182.5	13786	11	1203.3
			13753	11	1183.1	13787	11	1203.9
13720	11	1163.0	13754	11	1183.8	13788	11	1204.5
13721	11	1163.6	13755	11	1184.4	13789	11	1205.1
13722	11	1164.2	13756	11	1185.0			
13723	11	1164.9	13757	11	1185.6	13790	11	1205.7
13724	11	1165.5	13758	11	1186.2	13791	11	1206.3
13725	11	1166.1	13759	11	1186.8	13792	11	1206.9
13726	11	1166.7				13793	11	1207.5
13727	11	1167.3	13760	11	1187.4	13794	11	1208.1
13728	11	1167.9	13761	11	1188.0	13795	11	1208.7
13729	11	1168.5	13762	11	1188.6	13796	11	1209.3
			13763	11	1189.2	13797	11	1210.0
13730	11	1169.1	13764	11	1189.9	13798	11	1210.6
13731	11	1169.7	13765	11	1190.5	13799	11	1211.2
13732	11	1170.3	13766	11	1191.1			
13733	11	1171.0	13767	11	1191.7	**13800**	**11**	**1211.8**

Use check point at 13800 Kc

Frequency: 13800—13900 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
13800	**11**	**1211.8**	13834	11	1232.5	13868	11	1253.2
13801	11	1212.4	13835	11	1233.1	13869	11	1253.8
13802	11	1213.0	13836	11	1233.7			
13803	11	1213.6	13837	11	1234.3	13870	11	1254.4
13804	11	1214.2	13838	11	1234.9	13871	11	1255.0
13805	11	1214.8	13839	11	1235.5	13872	11	1255.6
13806	11	1215.4				13873	11	1256.2
13807	11	1216.0	13840	11	1236.1	13874	11	1256.8
13808	11	1216.6	13841	11	1236.7	13875	11	1257.4
13809	11	1217.3	13842	11	1237.3	13876	11	1258.0
			13843	11	1238.0	13877	11	1258.7
13810	11	1217.9	13844	11	1238.6	13878	11	1259.3
13811	11	1218.5	13845	11	1239.2	13879	11	1259.9
13812	11	1219.1	13846	11	1239.8			
13813	11	1219.7	13847	11	1240.4	13880	11	1260.5
13814	11	1220.3	13848	11	1241.0	13881	11	1261.1
13815	11	1220.9	13849	11	1241.6	13882	11	1261.7
13816	11	1221.5				13883	11	1262.3
13817	11	1222.1	13850	11	1242.2	13884	11	1262.9
13818	11	1222.7	13851	11	1242.8	13885	11	1263.5
13819	11	1223.3	13852	11	1243.4	13886	11	1264.1
			13853	11	1244.0	13887	11	1264.7
13820	11	1224.0	13854	11	1244.6	13888	11	1265.4
13821	11	1224.6	13855	11	1245.3	13889	11	1266.0
13822	11	1225.2	13856	11	1245.9			
13823	11	1225.8	13857	11	1246.5	13890	11	1266.6
13824	11	1226.4	13858	11	1247.1	13891	11	1267.2
13825	11	1227.0	13859	11	1247.7	13892	11	1267.8
13826	11	1227.6				13893	11	1268.4
13827	11	1228.2	13860	11	1248.3	13894	11	1269.0
13828	11	1228.8	13861	11	1248.9	13895	11	1269.6
13829	11	1229.4	13862	11	1249.5	13896	11	1270.2
			13863	11	1250.1	13897	11	1270.8
13830	11	1230.0	13864	11	1250.7	13898	11	1271.4
13831	11	1230.6	13865	11	1251.3	13899	11	1272.1
13832	11	1231.3	13866	11	1252.0			
13833	11	1231.9	13867	11	1252.6	13900	11	1272.7

Use check point at 13800 Kc

Frequency: 13900—14000 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B
13900	11	1272.7	13934	11	1293.4	13968	11	1314.2
13901	11	1273.3	13935	11	1294.0	13969	11	1314.8
13902	11	1273.9	13936	11	1294.6			
13903	11	1274.5	13937	11	1295.2	13970	11	1315.4
13904	11	1275.1	13938	11	1295.8	13971	11	1316.0
13905	11	1275.7	13939	11	1296.5	13972	11	1316.6
13906	11	1276.3				13973	11	1317.2
13907	11	1276.9	13940	11	1297.1	13974	11	1317.9
13908	11	1277.5	13941	11	1297.7	13975	11	1318.5
13909	11	1278.1	13942	11	1298.3	13976	11	1319.1
			13943	11	1298.9	13977	11	1319.7
13910	11	1278.8	13944	11	1299.5	13978	11	1320.3
13911	11	1279.4	13945	11	1300.1	13979	11	1320.9
13912	11	1280.0	13946	11	1300.7			
13913	11	1280.6	13947	11	1301.3	13980	11	1321.5
13914	11	1281.2	13948	11	1302.0	13981	11	1322.1
13915	11	1281.8	13949	11	1302.6	13982	11	1322.7
13916	11	1282.4				13983	11	1323.4
13917	11	1283.0	13950	11	1303.2	13984	11	1324.0
13918	11	1283.6	13951	11	1303.8	13985	11	1324.6
13919	11	1284.2	13952	11	1304.4	13986	11	1325.2
			13953	11	1305.0	13987	11	1325.8
13920	11	1284.8	13954	11	1305.6	13988	11	1326.4
13921	11	1285.5	13955	11	1306.2	13989	11	1327.0
13922	11	1286.1	13956	11	1306.8			
13923	11	1286.7	13957	11	1307.5	13990	11	1327.6
13924	11	1287.3	13958	11	1308.1	13991	11	1328.2
13925	11	1287.9	13959	11	1308.7	13992	11	1328.8
13926	11	1288.5				13993	11	1329.5
13927	11	1289.1	13960	11	1309.3	13994	11	1330.1
13928	11	1289.7	13961	11	1309.9	13995	11	1330.7
13929	11	1290.3	13962	11	1310.5	13996	11	1331.3
			13963	11	1311.1	13997	11	1331.9
13930	11	1291.0	13964	11	1311.7	13998	11	1332.5
13931	11	1291.6	13965	11	1312.4	13999	11	1333.1
13932	11	1292.2	13966	11	1313.0			
13933	11	1292.8	13967	11	1313.6	14000	11	1333.7

Use check point at 13800 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 14800—14900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14800	12	263.3	14834	12	280.6	14868	12	297.8
14801	12	263.8	14835	12	281.1	14869	12	298.3
14802	12	264.3	14836	12	281.6			
14803	12	264.8	14837	12	282.1	14870	12	298.8
14804	12	265.4	14838	12	282.6	14871	12	299.3
14805	12	265.9	14839	12	283.1	14872	12	299.8
14806	12	266.4				14873	12	300.4
14807	12	266.9	14840	12	283.6	14874	12	300.9
14808	12	267.4	14841	12	284.1	14875	12	301.4
14809	12	267.9	14842	12	284.6	14876	12	301.9
			14843	12	285.2	14877	12	302.4
14810	12	268.4	14844	12	285.7	14878	12	302.9
14811	12	268.9	14845	12	286.2	14879	12	303.4
14812	12	269.4	14846	12	286.7			
14813	12	269.9	14847	12	287.2	14880	12	303.9
14814	12	270.4	14848	12	287.7	14881	12	304.4
14815	12	271.0	14849	12	288.2	14882	12	304.9
14816	12	271.5				14883	12	305.4
14817	12	272.0	14850	12	288.7	14884	12	305.9
14818	12	272.5	14851	12	289.2	14885	12	306.4
14819	12	273.0	14852	12	289.7	14886	12	307.0
			14853	12	290.2	14887	12	307.5
14820	12	273.5	14854	12	290.7	14888	12	308.0
14821	12	274.0	14855	12	291.2	14889	12	308.5
14822	12	274.5	14856	12	291.7			
14823	12	275.0	14857	12	292.2	14890	12	309.0
14824	12	275.5	14858	12	292.8	14891	12	309.5
14825	12	276.0	14859	12	293.3	14892	12	310.0
14826	12	276.5				14893	12	310.5
14827	12	277.0	14860	12	293.8	14894	12	311.0
14828	12	277.6	14861	12	294.3	14895	12	311.5
14829	12	278.1	14862	12	294.8	14896	12	312.1
			14863	12	295.3	14897	12	312.6
14830	12	278.6	14864	12	295.8	14898	12	313.1
14831	12	279.1	14865	12	296.3	14899	12	313.6
14832	12	279.6	14866	12	296.8			
14833	12	280.1	14867	12	297.3	14900	12	314.1

Use check point at 15000 Kc

Frequency: 15000—15100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
15000	**12**	**365.2**	15034	12	382.4	15068	12	399.7
15001	12	365.7	15035	12	382.9	15069	12	400.2
15002	12	366.2	15036	12	383.4			
15003	12	366.7	15037	12	383.9	15070	12	400.7
15004	12	367.2	15938	12	384.5	15071	12	401.3
15005	12	367.7	15039	12	385.0	15072	12	401.8
15006	12	368.2				15073	12	402.3
15007	12	368.7	15040	12	385.5	15074	12	402.8
15008	12	369.2	15041	12	386.0	15075	12	403.3
15009	12	369.7	15042	12	386.5	15076	12	403.8
			15043	12	387.0	15077	12	404.3
15010	12	370.2	15044	12	387.5	15078	12	404.8
15011	12	370.7	15045	12	388.0	15079	12	405.4
15012	12	371.3	15046	12	388.5			
15013	12	371.8	15047	12	389.0	15080	12	405.9
15014	12	372.3	15048	12	389.5	15081	12	406.4
15015	12	372.8	15049	12	390.0	15082	12	406.9
15016	12	373.3				15083	12	407.4
15017	12	373.8	15050	12	390.5	15084	12	407.9
15018	12	374.3	15051	12	391.1	15085	12	408.4
15019	12	374.8	15052	12	391.6	15086	12	408.9
			15053	12	392.1	15087	12	409.5
15020	12	375.3	15054	12	392.6	15088	12	410.0
15021	12	375.8	15055	12	393.1	15089	12	410.5
15022	12	376.3	15056	12	393.6			
15023	12	376.8	15057	12	394.1	15090	12	411.0
15024	12	377.3	15058	12	394.6	15091	12	411.5
15025	12	377.9	15059	12	395.1	15092	12	412.0
15026	12	378.4				15093	12	412.5
15027	12	378.9	15060	12	395.6	15094	12	413.1
15028	12	379.4	15061	12	396.1	15095	12	413.6
15029	12	379.9	15062	12	396.6	15096	12	414.1
			15063	12	397.2	15097	12	414.6
15030	12	380.4	15064	12	397.7	15098	12	415.1
15031	12	380.9	15065	12	398.2	15099	12	415.6
15032	12	381.4	15066	12	398.7			
15033	12	381.9	15067	12	399.2	15100	12	416.1

Use check point at 15000 Kc

Frequency: 14900—15000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14900	12	314.1	14934	12	331.4	14968	12	348.8
14901	12	314.6	14935	12	331.9	14969	12	349.3
14902	12	315.1	14936	12	332.4			
14903	12	315.6	14937	12	333.0	14970	12	349.8
14904	12	316.1	14938	12	333.5	14971	12	350.3
14905	12	316.6	14939	12	334.0	14972	12	350.8
14906	12	317.2				14973	12	351.4
14907	12	317.7	14940	12	334.5	14974	12	351.9
14908	12	318.2	14941	12	335.0	14975	12	352.4
14909	12	318.7	14942	12	335.5	14976	12	352.9
			14943	12	336.0	14977	12	353.4
14910	12	319.2	14944	12	336.5	14978	12	353.9
14911	12	319.7	14945	12	337.0	14979	12	354.4
14912	12	320.2	14946	12	337.5			
14913	12	320.7	14947	12	338.1	14980	12	354.9
14914	12	321.2	14948	12	338.6	14981	12	355.4
14915	12	321.7	14949	12	339.1	14982	12	356.0
14916	12	322.2				14983	12	356.5
14917	12	322.8	14950	12	339.6	14984	12	357.0
14918	12	323.3	14951	12	340.1	14985	12	357.5
14919	12	323.8	14952	12	340.6	14986	12	358.0
			14953	12	341.1	14987	12	358.5
14920	12	324.3	14954	12	341.6	14988	12	359.0
14921	12	324.8	14955	12	342.2	14989	12	359.5
14922	12	325.3	14956	12	342.7			
14923	12	325.8	14957	12	343.2	14990	12	360.0
14924	12	326.3	14958	12	343.7	14991	12	360.6
14925	12	326.8	14959	12	344.2	14992	12	361.1
14926	12	327.3				14993	12	361.6
14927	12	327.9	14960	12	344.7	14994	12	362.1
14928	12	328.4	14961	12	345.2	14995	12	362.6
14929	12	328.9	14962	12	345.7	14996	12	363.1
			14963	12	346.2	14997	12	363.6
14930	12	329.4	14964	12	346.8	14998	12	364.1
14931	12	329.9	14965	12	347.3	14999	12	364.6
14932	12	330.4	14966	12	347.8			
14933	12	330.9	14967	12	348.3	**15000**	**12**	**365.2**

Use check point at 15000 Kc

Frequency: 15100—15200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
15100	12	416.1	15134	12	433.6	15168	12	451.1
15101	12	416.6	15135	12	434.1	15169	12	451.6
15102	12	417.2	15136	12	434.6			
15103	12	417.7	15137	12	435.1	15170	12	452.1
15104	12	418.2	15138	12	435.6	15171	12	452.6
15105	12	418.7	15139	12	436.2	15172	12	453.1
15106	12	419.2				15173	12	453.6
15107	12	419.7	15140	12	436.7	15174	12	454.2
15108	12	420.2	15141	12	437.2	15175	12	454.7
15109	12	420.7	15142	12	437.7	15176	12	455.2
			15143	12	438.2	15177	12	455.7
15110	12	421.3	15144	12	438.7	15178	12	456.2
15111	12	421.8	15145	12	439.2	15179	12	456.7
15112	12	422.3	15146	12	439.8			
15113	12	422.8	15147	12	440.3	15180	12	457.2
15114	12	423.3	15148	12	440.8	15181	12	457.7
15115	12	423.8	15149	12	441.3	15182	12	458.3
15116	12	424.3				15183	12	458.8
15117	12	424.8	15150	12	441.8	15184	12	459.3
15118	12	425.4	15151	12	442.3	15185	12	459.8
15119	12	425.9	15152	12	442.8	15186	12	460.3
			15153	12	443.4	15187	12	460.8
15120	12	426.4	15154	12	443.9	15188	12	461.3
15121	12	426.9	15155	12	444.4	15189	12	461.8
15122	12	427.4	15156	12	444.9			
15123	12	427.9	15157	12	445.4	15190	12	462.3
15124	12	428.4	15158	12	445.9	15191	12	462.8
15125	12	429.0	15159	12	446.4	15192	12	463.4
15126	12	429.5				15193	12	463.9
15127	12	430.0	15160	12	447.0	15194	12	464.4
15128	12	430.5	15161	12	447.5	15195	12	464.9
15129	12	431.0	15162	12	448.0	15196	12	465.4
			15163	12	448.5	15197	12	465.9
15130	12	431.5	15164	12	449.0	15198	12	466.4
15131	12	432.0	15165	12	449.5	15199	12	466.9
15132	12	432.6	15166	12	450.0			
15133	12	433.1	15167	12	450.6	15200	12	467.4

Use check point at 15000 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 14400—14500 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14400	**12**	**60.0**	14434	12	77.4	14468	12	94.7
14401	12	60.5	14435	12	77.9	14469	12	95.3
14402	12	61.0	14436	12	78.4			
14403	12	61.5	14437	12	78.9	14470	12	95.8
14404	12	62.0	14438	12	79.4	14471	12	96.3
14405	12	62.6	14439	12	79.9	14472	12	96.8
14406	12	63.1				14473	12	97.3
14407	12	63.6	14440	12	80.4	14474	12	97.8
14408	12	64.1	14441	12	81.0	14475	12	98.3
14409	12	64.6	14442	12	81.5	14476	12	98.8
			14443	12	82.0	14477	12	99.3
14410	12	65.1	14444	12	82.5	14478	12	99.9
14411	12	65.6	14445	12	83.0	14479	12	100.4
14412	12	66.1	14446	12	83.5			
14413	12	66.6	14447	12	84.0	14480	12	100.9
14414	12	67.2	14448	12	84.5	14481	12	101.4
14415	12	67.7	14449	12	85.0	14482	12	101.9
14416	12	68.2				14483	12	102.4
14417	12	68.7	14450	12	85.6	14484	12	102.9
14418	12	69.2	14451	12	86.1	14485	12	103.4
14419	12	69.7	14452	12	86.6	14486	12	103.9
			14453	12	87.1	14487	12	104.5
14420	12	70.2	14454	12	87.6	14488	12	105.0
14421	12	70.7	14455	12	88.1	14489	12	105.5
14422	12	71.2	14456	12	88.6			
14423	12	71.8	14457	12	89.1	14490	12	106.0
14424	12	72.3	14458	12	89.6	14491	12	106.5
14425	12	72.8	14459	12	90.1	14492	12	107.0
14426	12	73.3				14493	12	107.5
14427	12	73.8	14460	12	90.7	14494	12	108.0
14428	12	74.3	14461	12	91.2	14495	12	108.5
14429	12	74.8	14462	12	91.7	14496	12	109.1
			14463	12	92.2	14497	12	109.6
14430	12	75.3	14464	12	92.7	14498	12	110.1
14431	12	75.8	14465	12	93.2	14499	12	110.6
14432	12	76.4	14466	12	93.7			
14433	12	76.9	14467	12	94.2	14500	12	111.1

Use check point at 14400 Kc

Frequency: 14500—14600 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14500	12	111.1	14534	12	128.4	14568	12	145.7
14501	12	111.6	14535	12	128.9	14569	12	146.2
14502	12	112.1	14536	12	129.5			
14503	12	112.6	14537	12	130.0	14570	12	146.7
14504	12	113.1	14538	12	130.5	14571	12	147.2
14505	12	113.7	14539	12	131.0	14572	12	147.8
14506	12	114.2				14573	12	148.3
14507	12	114.7	14540	12	131.5	14574	12	148.8
14508	12	115.2	14541	12	132.0	14575	12	149.3
14509	12	115.7	14542	12	132.5	14576	12	149.8
			14543	12	133.0	14577	12	150.3
14510	12	116.2	14544	12	133.5	14578	12	150.8
14511	12	116.7	14545	12	134.0	14579	12	151.3
14512	12	117.2	14546	12	134.5			
14513	12	117.7	14547	12	135.0	14580	12	151.8
14514	12	118.3	14548	12	135.6	14581	12	152.3
14515	12	118.8	14549	12	136.1	14582	12	152.8
14516	12	119.3				14583	12	153.3
14517	12	119.8	14550	12	136.6	14584	12	153.8
14518	12	120.3	14551	12	137.1	14585	12	154.4
14519	12	120.8	14552	12	137.6	14586	12	154.9
			14553	12	138.1	14587	12	155.4
14520	12	121.3	14554	12	138.6	14588	12	155.9
14521	12	121.8	14555	12	139.1	14589	12	156.4
14522	12	122.3	14556	12	139.6			
14523	12	122.8	14557	12	140.1	14590	12	156.9
14524	12	123.4	14558	12	140.6	14591	12	157.4
14525	12	123.9	14559	12	141.1	14592	12	157.9
14526	12	124.4				14593	12	158.4
14527	12	124.9	14560	12	141.7	14594	12	158.9
14528	12	125.4	14561	12	142.2	14595	12	159.4
14529	12	125.9	14562	12	142.7	14596	12	159.9
			14563	12	143.2	14597	12	160.4
14530	12	126.4	14564	12	143.7	14598	12	160.9
14531	12	126.9	14565	12	144.2	14599	12	161.4
14532	12	127.4	14566	12	144.7			
14533	12	127.9	14567	12	145.2	14600	12	161.9

Use check point at 14400 Kc

Frequency: 14600—14700 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14600	12	161.9	14634	12	179.1	14668	12	196.4
14601	12	162.4	14635	12	179.7	14669	12	196.9
14602	12	163.0	14636	12	180.2			
14603	12	163.5	14637	12	180.7	14670	12	197.4
14604	12	164.0	14638	12	181.2	14671	12	197.9
14605	12	164.5	14639	12	181.7	14672	12	198.4
14606	12	165.0				14673	12	198.9
14607	12	165.5	14640	12	182.2	14674	12	199.4
14608	12	166.0	14641	12	182.7	14675	12	199.9
14609	12	166.5	14642	12	183.2	14676	12	200.4
			14643	12	183.7	14677	12	200.9
14610	12	167.0	14644	12	184.2	14678	12	201.4
14611	12	167.5	14645	12	184.7	14679	12	202.0
14612	12	168.0	14646	12	185.2			
14613	12	168.5	14647	12	185.7	14680	12	202.5
14614	12	169.0	14648	12	186.2	14681	12	203.0
14615	12	169.5	14649	12	186.7	14682	12	203.5
14616	12	170.0				14683	12	204.0
14617	12	170.5	14650	12	187.3	14684	12	204.5
14618	12	171.0	14651	12	187.8	14685	12	205.0
14619	12	171.6	14652	12	188.3	14686	12	205.5
			14653	12	188.8	14687	12	206.0
14620	12	172.1	14654	12	189.3	14688	12	206.5
14621	12	172.6	14655	12	189.8	14689	12	207.0
14622	12	173.1	14656	12	190.3			
14623	12	173.6	14657	12	190.8	14690	12	207.5
14624	12	174.1	14658	12	191.3	14691	12	208.0
14625	12	174.6	14659	12	191.8	14692	12	208.5
14626	12	175.1				14693	12	209.1
14627	12	175.6	14660	12	192.3	14694	12	209.6
14628	12	176.1	14661	12	192.8	14695	12	210.1
14629	12	176.6	14662	12	193.3	14696	12	210.6
			14663	12	193.8	14697	12	211.1
14630	12	177.1	14664	12	194.3	14698	12	211.6
14631	12	177.6	14665	12	194.9	14699	12	212.1
14632	12	178.1	14666	12	195.4			
14633	12	178.6	14667	12	195.9	14700	12	212.6

Use check point at 14400 Kc

Frequency: 14700—14800 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
14700	12	212.6	14734	12	229.8	14768	12	247.0
14701	12	213.1	14735	12	230.3	14769	12	247.5
14702	12	213.6	14736	12	230.8			
14703	12	214.1	14737	12	231.3	14770	12	248.1
14704	12	214.6	14738	12	231.8	14771	12	248.6
14705	12	215.1	14739	12	232.3	14772	12	249.1
14706	12	215.6				14773	12	249.6
14707	12	216.1	14740	12	232.8	14774	12	250.1
14708	12	216.6	14741	12	233.3	14775	12	250.6
14709	12	217.2	14742	12	233.9	14776	12	251.1
			14743	12	234.4	14777	12	251.6
14710	12	217.7	14744	12	234.9	14778	12	252.1
14711	12	218.2	14745	12	235.4	14779	12	252.6
14712	12	218.7	14746	12	235.9			
14713	12	219.2	14747	12	236.4	14780	12	253.1
14714	12	219.7	14748	12	236.9	14781	12	253.6
14715	12	220.2	14749	12	237.4	14782	12	254.2
14716	12	220.7				14783	12	254.7
14717	12	221.2	14750	12	237.9	14784	12	255.2
14718	12	221.7	14751	12	238.4	14785	12	255.7
14719	12	222.2	14752	12	238.9	14786	12	256.2
			14753	12	239.4	14787	12	256.7
14720	12	222.7	14754	12	239.9	14788	12	257.2
14721	12	223.2	14755	12	240.4	14789	12	257.7
14722	12	223.7	14756	12	240.9			
14723	12	224.2	14757	12	241.4	14790	12	258.2
14724	12	224.7	14758	12	241.9	14791	12	258.7
14725	12	225.3	14759	12	242.5	14792	12	259.2
14726	12	225.8				14793	12	259.8
14727	12	226.3	14760	12	243.0	14794	12	260.3
14728	12	226.8	14761	12	243.5	14795	12	260.8
14729	12	227.3	14762	12	244.0	14796	12	261.3
			14763	12	244.5	14797	12	261.8
14730	12	227.8	14764	12	245.0	14798	12	262.3
14731	12	228.3	14765	12	245.5	14799	12	262.8
14732	12	228.8	14766	12	246.0			
14733	12	229.3	14767	12	246.5	14800	12	263.3

Use check point at 15000 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 15600—15700 Kc

Freq.	A	B
15600	**12**	**673.4**
15601	12	673.9
15602	12	674.4
15603	12	675.0
15604	12	675.5
15605	12	676.0
15606	12	676.5
15607	12	677.0
15608	12	677.5
15609	12	678.0
15610	12	678.6
15611	12	679.1
15612	12	679.6
15613	12	680.1
15614	12	680.6
15615	12	681.1
15616	12	681.6
15617	12	682.2
15618	12	682.7
15619	12	683.2
15620	12	683.7
15621	12	684.2
15622	12	684.7
15623	12	685.2
15624	12	685.7
15625	12	686.3
15626	12	686.8
15627	12	687.3
15628	12	687.8
15629	12	688.3
15630	12	688.8
15631	12	689.3
15632	12	689.9
15633	12	690.4
15634	12	690 9
15635	12	691.4
15636	12	691.9
15637	12	692.4
15638	12	692.9
15639	12	693.5
15640	12	694.0
15641	12	694.5
15642	12	695.0
15643	12	695.5
15644	12	696.0
15645	12	696.5
15646	12	697.0
15647	12	697.6
15648	12	698.1
15649	12	698.6
15650	12	699.1
15651	12	699 6
15652	12	700.1
15653	12	700.6
15654	12	701.2
15655	12	701.7
15656	12	702.2
15657	12	702.7
15658	12	703.2
15659	12	703.7
15660	12	704.2
15661	12	704.8
15662	12	705.3
15663	12	705.8
15664	12	706.3
15665	12	706.8
15666	12	707.3
15667	12	707.9
15668	12	708.4
15669	12	708.9
15670	12	709.4
15671	12	709.9
15672	12	710.4
15673	12	711.0
15674	12	711.5
15675	12	712.0
15676	12	712.5
15677	12	713.0
15678	12	713.5
15679	12	714.1
15680	12	714.6
15681	12	715.1
15682	12	715.6
15683	12	716.1
15684	12	716.6
15685	12	717.2
15686	12	717.7
15687	12	718.2
15688	12	718.7
15689	12	719.2
15690	12	719.8
15691	12	720.3
15692	12	720.8
15693	12	721.3
15694	12	721.8
15695	12	722.3
15696	12	722.9
15697	12	723.4
15698	12	723.9
15699	12	724.4
15700	12	724.9

Use check point at 15600 Kc

Frequency: 15800—15900 Kc

Freq.	A	B
15800	12	776.3
15801	12	776.8
15802	12	777.3
15803	12	777.8
15804	12	778.3
15805	12	778.8
15806	12	779.4
15807	12	779.9
15808	12	780.4
15809	12	780.9
15810	12	781.4
15811	12	781.9
15812	12	782.4
15813	12	783.0
15814	12	783.5
15815	12	784.0
15816	12	784.5
15817	12	785.0
15818	12	785.5
15819	12	786.0
15820	12	786.6
15821	12	787.1
15822	12	787.6
15823	12	788.1
15824	12	788.6
15825	12	789.1
15826	12	789.7
15827	12	790.2
15828	12	790.7
15829	12	791.2
15830	12	791.7
15831	12	792.2
15832	12	792.7
15833	12	793.3
15834	12	793.8
15835	12	794.3
15836	12	794.8
15837	12	795.3
15838	12	795.8
15839	12	796.3
15840	12	796.9
15841	12	797.4
15842	12	797.9
15843	12	798.4
15844	12	798.9
15845	12	799.5
15846	12	800.0
15847	12	800.5
15848	12	801.0
15849	12	801.5
15850	12	802.0
15851	12	802.6
15852	12	803.1
15853	12	803.6
15854	12	804.1
15855	12	804.6
15856	12	805.2
15857	12	805.7
15858	12	806.2
15859	12	806.7
15860	12	807.2
15861	12	807.7
15862	12	808.3
15863	12	808.8
15864	12	809.3
15865	12	809.8
15866	12	810.3
15867	12	810.9
15868	12	811.4
15869	12	811.9
15870	12	812.4
15871	12	812.9
15872	12	813.4
15873	12	814.0
15874	12	814.5
15875	12	815.0
15876	12	815.5
15877	12	816.0
15878	12	816.6
15879	12	817.1
15880	12	817.6
15881	12	818.1
15882	12	818.6
15883	12	819.1
15884	12	819.7
15885	12	820.2
15886	12	820.7
15887	12	821.2
15888	12	821.7
15889	12	822.3
15890	12	822.8
15891	12	823.3
15892	12	823.8
15893	12	824.3
15894	12	824.9
15895	12	825.4
15896	12	825.9
15897	12	826.4
15898	12	826.9
15899	12	827.4
15900	12	828.0

Use check point at 15600 Kc

Frequency: 15700—15800 Kc

Freq.	A	B
15700	12	724.9
15701	12	725.4
15702	12	726.0
15703	12	726.5
15704	12	727.0
15705	12	727.5
15706	12	728 0
15707	12	728 5
15708	12	729.1
15709	12	729.6
15710	12	730.1
15711	12	730.6
15712	12	731.1
15713	12	731.6
15714	12	732 2
15715	12	732.7
15716	12	733 2
15717	12	733 7
15718	12	734 2
15719	12	734.7
15720	12	735 3
15721	12	735.8
15722	12	736 3
15723	12	736 8
15724	12	737 3
15725	12	737.8
15726	12	738 3
15727	12	738 8
15728	12	739 4
15729	12	739 9
15730	12	740.4
15731	12	740 9
15732	12	741.4
15733	12	741.9
15734	12	742.4
15735	12	742.9
15736	12	743 4
15737	12	744.0
15738	12	744.5
15739	12	745.0
15740	12	745.5
15741	12	746.0
15742	12	746.5
15743	12	747.0
15744	12	747.5
15745	12	748.1
15746	12	748.6
15747	12	749.1
15748	12	749.6
15749	12	750.1
15750	12	750 6
15751	12	751.1
15752	12	751.6
15753	12	752.1
15754	12	752.7
15755	12	753.2
15756	12	753.7
15757	12	754.2
15758	12	754.7
15759	12	755.2
15760	12	755.7
15761	12	756.2
15762	12	756.8
15763	12	757.3
15764	12	757 8
15765	12	758 3
15766	12	758 8
15767	12	759.3
15768	12	759.8
15769	12	760.3
15770	12	760.8
15771	12	761.4
15772	12	761.9
15773	12	762.4
15774	12	762.9
15775	12	763.4
15776	12	763.9
15777	12	764.4
15778	12	764.9
15779	12	765.4
15780	12	766.0
15781	12	766.5
15782	12	767.0
15783	12	767.5
15784	12	763.0
15785	12	768 5
15786	12	769.1
15787	12	769.6
15788	12	770.1
15789	12	770.6
15790	12	771.1
15791	12	771.6
15792	12	772.1
15793	12	772.7
15794	12	773.2
15795	12	773.7
15796	12	774.2
15797	12	774.7
15798	12	775.2
15799	12	775.7
15800	12	776.3

Use check point at 15600 Kc

Frequency: 15900—16000 Kc

Freq.	A	B
15900	12	828.0
15901	12	828.5
15902	12	829.0
15903	12	829.5
15904	12	830.0
15905	12	830.5
15906	12	831.0
15907	12	831.6
15908	12	832.1
15909	12	832.6
15910	12	833.1
15911	12	833.6
15912	12	834.1
15913	12	834.6
15914	12	835.1
15915	12	835.7
15916	12	836.2
15917	12	836.7
15918	12	837.2
15919	12	837.7
15920	12	838.2
15921	12	838.7
15922	12	839.3
15923	12	839.8
15924	12	840.3
15925	12	840.8
15926	12	841.3
15927	12	841.8
15928	12	842.3
15929	12	842.8
15930	12	843.4
15931	12	843.9
15932	12	844.4
15933	12	844.9
15934	12	845.4
15935	12	845.9
15936	12	846.4
15937	12	847.0
15938	12	847.5
15939	12	848.0
15940	12	848.5
15941	12	849.0
15942	12	849.5
15943	12	850.0
15944	12	850.5
15945	12	851.1
15846	12	851.6
15947	12	852.1
15948	12	852.6
15949	12	853.1
15950	12	853.6
15951	12	854.1
15952	12	854.7
15953	12	855.2
15954	12	855.7
15955	12	856.2
15956	12	856.7
15957	12	857.2
15958	12	857.7
15959	12	858.2
15960	12	858.8
15961	12	859.3
15962	12	859.8
15963	12	860.3
15964	12	860.8
15965	12	861.3
15966	12	861.8
15967	12	862.3
15968	12	862.8
15969	12	863.3
15970	12	863.8
15971	12	864.3
15972	12	864.8
15973	12	865.3
15974	12	865.8
15975	12	866.4
15976	12	866.9
15977	12	867.4
15978	12	867.9
15979	12	868.4
15980	12	868.9
15981	12	869.4
15982	12	869.9
15983	12	870.4
15984	12	870.9
15985	12	871.4
15986	12	871.9
15987	12	872.4
15988	12	872.9
15989	12	873.4
15990	12	874.0
15991	12	874.5
15992	12	875.0
15993	12	875.5
15994	12	876.0
15995	12	876.5
15996	12	877.0
15997	12	877.5
15998	12	878.0
15999	12	878.5
16000	12	879.0

Use check point at 16200 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 15200—15300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
15200	12	467.4	15234	12	484.8	15268	12	502.3
15201	12	467.9	15235	12	485.3	15269	12	502.9
15202	12	468.5	15236	12	485.8			
15203	12	469.0	15237	12	486.3	15270	12	503.4
15204	12	469.5	15238	12	486.8	15271	12	503.9
15205	12	470.0	15239	12	487.3	15272	12	504.4
15206	12	470.5				15273	12	504.9
15207	12	471.0	15240	12	487.8	15274	12	505.4
15208	12	471.5	15241	12	488.3	15275	12	506.0
15209	12	472.0	15242	12	488.9	15276	12	506.5
			15243	12	489.4	15277	12	507.0
15210	12	472.5	15244	12	489.9	15278	12	507.5
15211	12	473.0	15245	12	490.4	15279	12	508.0
15212	12	473.5	15246	12	490.9			
15213	12	474.1	15247	12	491.4	15280	12	508.6
15214	12	474.6	15248	12	492.0	15281	12	509.1
15215	12	475.1	15249	12	492.5	15282	12	509.6
15216	12	475.6				15283	12	510.1
15217	12	476.1	15250	12	493.0	15284	12	510.6
15218	12	476.6	15251	12	493.5	15285	12	511.1
15219	12	477.1	15252	12	494.0	15286	12	511.7
			15253	12	494.6	15287	12	512.2
15220	12	477.6	15254	12	495.1	15288	12	512.7
15221	12	478.1	15255	12	495.6	15289	12	513.2
15222	12	478.6	15256	12	496.1			
15223	12	479.2	15257	12	496.6	15290	12	513.7
15224	12	479.7	15258	12	497.2	15291	12	514.3
15225	12	480.2	15259	12	497.7	15292	12	514.8
15226	12	480.7				15293	12	515.3
15227	12	481.2	15260	12	498.2	15294	12	515.8
15228	12	481.7	15261	12	498.7	15295	12	516.3
15229	12	482.2	15262	12	499.2	15296	12	516.8
			15263	12	499.7	15297	12	517.4
15230	12	482.7	15264	12	500.3	15298	12	517.9
15231	12	483.2	15265	12	500.8	15299	12	518.4
15232	12	483.7	15266	12	501.3			
15233	12	484.3	15267	12	501.8	15300	12	518.9

Use check point at 15000 Kc

Frequency: 15300—15400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
15300	12	518.9	15334	12	536.4	15368	12	553.8
15301	12	519.4	15335	12	536.9	15369	12	554.3
15302	12	519.9	15336	12	537.4			
15303	12	520.5	15337	12	537.9	15370	12	554.9
15304	12	521.0	15338	12	538.4	15371	12	555.4
15305	12	521.5	15339	12	538.9	15372	12	555.9
15306	12	522.0				15373	12	556.4
15307	12	522.5	15340	12	539.5	15374	12	556.9
15308	12	523.0	15341	12	540.0	15375	12	557.4
15309	12	523.5	15342	12	540.5	15376	12	557.9
			15343	12	541.0	15377	12	558.5
15310	12	524.1	15344	12	541.5	15378	12	559.0
15311	12	524.6	15345	12	542.0	15379	12	559.5
15312	12	525.1	15346	12	542.5			
15313	12	525.6	15347	12	543.0	15380	12	560.0
15314	12	526.1	15348	12	543.6	15381	12	560.5
15315	12	526.6	15349	12	544.1	15382	12	561.0
15316	12	527.1				15383	12	561.5
15317	12	527.6	15350	12	544.6	15384	12	562.1
15318	12	528.2	15351	12	545.1	15385	12	562.6
15319	12	528.7	15352	12	545.6	15386	12	563.1
			15353	12	546.1	15387	12	563.6
15320	12	529.2	15354	12	546.6	15388	12	564.1
15321	12	529.7	15355	12	547.2	15389	12	564.6
15322	12	530.2	15356	12	547.7			
15323	12	530.7	15357	12	548.2	15390	12	565.2
15324	12	531.2	15358	12	548.7	15391	12	565.7
15325	12	531.8	15359	12	549.2	15392	12	566.2
15326	12	532.3				15393	12	566.7
15327	12	532.8	15360	12	549.7	15394	12	567.2
15328	12	533.3	15361	12	550.2	15395	12	567.7
15329	12	533.8	15362	12	550.7	15396	12	568.2
			15363	12	551.3	15397	12	568.8
15330	12	534.3	15364	12	551.8	15398	12	569.3
15331	12	534.8	15365	12	552.3	15399	12	569.8
15332	12	535.3	15366	12	552.8			
15333	12	535.9	15367	12	553.3	15400	12	570.3

Use check point at 15600 Kc

Frequency: 15400—15500 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
15400	12	570.3	15434	12	587.8	15468	12	605.4
15401	12	570.8	15435	12	588.3	15469	12	605.9
15402	12	571.3	15436	12	588.8			
15403	12	571.8	15437	12	589.4	15470	12	606.4
15404	12	572.4	15438	12	589.9	15471	12	606.9
15405	12	572.9	15439	12	590.4	15472	12	607.4
15406	12	573.4				15473	12	608.0
15407	12	573.9	15440	12	590.9	15474	12	608.5
15408	12	574.4	15441	12	591.4	15475	12	609.0
15409	12	574.9	15442	12	591.9	15476	12	609.5
			15443	12	592.5	15477	12	610.0
15410	12	575.4	15444	12	593.0	15478	12	610.5
15411	12	576.0	15445	12	593.5	15479	12	611.1
15412	12	576.5	15446	12	594.0			
15413	12	577.0	15447	12	594.5	15480	12	611.6
15414	12	577.5	15448	12	595.0	15481	12	612.1
15415	12	578.0	15449	12	595.6	15482	12	612.6
15416	12	578.5				15483	12	613.1
15417	12	579.0	15450	12	596.1	15484	12	613.6
15418	12	579.6	15451	12	596.6	15485	12	614.2
15419	12	580.1	15452	12	597.1	15486	12	614.7
			15453	12	597.6	15487	12	615.2
15420	12	580.6	15454	12	598.1	15488	12	615.7
15421	12	581.1	15455	12	598.7	15489	12	616.2
15422	12	581.6	15456	12	599.2			
15423	12	582.1	15457	12	599.7	15490	12	616.7
15424	12	582.6	15458	12	600.2	15491	12	617.2
15425	12	583.2	15459	12	600.7	15492	12	617.8
15426	12	583.7				15493	12	618.3
15427	12	584.2	15460	12	601.2	15494	12	618.8
15428	12	584.7	15461	12	601.8	15495	12	619.3
15429	12	585.2	15462	12	602.3	15496	12	619.8
			15463	12	602.8	15497	12	620.3
15430	12	585.7	15464	12	603.3	15498	12	620.9
15431	12	586.3	15465	12	603.8	15499	12	621.4
15432	12	586.8	15466	12	604.3			
15433	12	587.3	15467	12	604.9	15500	12	621.9

Use check point at 15600 Kc

Frequency: 15500—15600 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
15500	12	621.9	15534	12	639.4	15568	12	656.9
15501	12	622.4	15535	12	639.9	15569	12	657.4
15502	12	622.9	15536	12	640.4			
15503	12	623.4	15537	12	641.0	15570	12	658.0
15504	12	623.9	15538	12	641.5	15571	12	658.5
15505	12	624.5	15539	12	642.0	15572	12	659.0
15506	12	625.0				15573	12	659.5
15507	12	625.5	15540	12	642.5	15574	12	660.0
15508	12	626.0	15541	12	643.0	15575	12	660.5
15509	12	626.5	15542	12	643.5	15576	12	661.1
			15543	12	644.0	15577	12	661.6
15510	12	627.0	15544	12	644.6	15578	12	662.1
15511	12	627.6	15545	12	645.1	15579	12	662.6
15512	12	628.1	15546	12	645.6			
15513	12	628.6	15547	12	646.1	15580	12	663.1
15514	12	629.1	15548	12	646.6	15581	12	663.6
15515	12	629.6	15549	12	647.1	15582	12	664.1
15516	12	630.1				15583	12	664.7
15517	12	630.6	15550	12	647.7	15584	12	665.2
15518	12	631.2	15551	12	648.2	15585	12	665.7
15519	12	631.7	15552	12	648.7	15586	12	666.2
			15553	12	649.2	15587	12	666.7
15520	12	632.2	15554	12	649.7	15588	12	667.2
15521	12	632.7	15555	12	650.2	15589	12	667.8
15522	12	633.2	15556	12	650.7			
15523	12	633.7	15557	12	651.3	15590	12	668.3
15524	12	634.3	15558	12	651.8	15591	12	668.8
15525	12	634.8	15559	12	652.3	15592	12	669.3
15526	12	635.3				15593	12	669.8
15527	12	635.8	15560	12	652.8	15594	12	670.3
15528	12	636.3	15561	12	653.3	15595	12	670.8
15529	12	636.8	15562	12	653.8	15596	12	671.4
			15563	12	654.4	15597	12	671.9
15530	12	637.3	15564	12	654.9	15598	12	672.4
15531	12	637.9	15565	12	655.4	15599	12	672.9
15532	12	638.4	15566	12	655.9			
15533	12	638.9	15567	12	656.4	**15600**	**12**	**673.4**

Use check point at 15600 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 16400—16500 Kc

Freq.	*A*	*B*
16400	12	1083.1
16401	12	1083.6
16402	12	1084.1
16403	12	1084.7
16404	12	1085.2
16405	12	1085.7
16406	12	1086.2
16407	12	1086.7
16408	12	1087.2
16409	12	1087.7
16410	12	1088.2
16411	12	1088.7
16412	12	1089.2
16413	12	1089.7
16414	12	1090.2
16415	12	1090.7
16416	12	1091.3
16417	12	1091.8
16418	12	1092.3
16419	12	1092.8
16420	12	1093.3
16421	12	1093.8
16422	12	1094.3
16423	12	1094.8
16424	12	1095.3
16425	12	1095.8
16426	12	1096.3
16427	12	1096.8
16428	12	1097.3
16429	12	1097.9
16430	12	1098.4
16431	12	1098.9
16432	12	1099.4
16433	12	1099.9
16434	12	1100.4
16435	12	1100.9
16436	12	1101.4
16437	12	1101.9
16438	12	1102.4
16439	12	1102.9
16440	12	1103.4
16441	12	1103.9
16442	12	1104.5
16443	12	1105.0
16444	12	1105.5
16445	12	1106.0
16446	12	1106.5
16447	12	1107.0
16448	12	1107.5
16449	12	1108.0
16450	12	1108.5
16451	12	1109.0
16452	12	1109.5
16453	12	1110.0
16454	12	1110.5
16455	12	1111.0
16456	12	1111.5
16457	12	1112.1
16458	12	1112.6
16459	12	1113.1
16460	12	1113.6
16461	12	1114.1
16462	12	1114.6
16463	12	1115.1
16464	12	1115.6
16465	12	1116.1
16466	12	1116.6
16467	12	1117.1
16468	12	1117.6
16469	12	1118.1
16470	12	1118.6
16471	12	1119.1
16472	12	1119.7
16473	12	1120.2
16474	12	1120.7
16475	12	1121.2
16476	12	1121.7
16477	12	1122.2
16478	12	1122.7
16479	12	1123.2
16480	12	1123.7
16481	12	1124.2
16482	12	1124.7
16483	12	1125.2
16484	12	1125.7
16485	12	1126.2
16486	12	1126.7
16487	12	1127.3
16488	12	1127.8
16489	12	1128.3
16490	12	1128.8
16491	12	1129.3
16492	12	1129.8
16493	12	1130.3
16494	12	1130.8
16495	12	1131.3
16496	12	1131.8
16497	12	1132.3
16498	12	1132.8
16499	12	1133.3
16500	12	1133.8

Use check point at 16200 Kc

Frequency: 16600—16700 Kc

Freq.	*A*	*B*
16600	12	1184.4
16601	12	1184.9
16602	12	1185.4
16603	12	1185.9
16604	12	1186.4
16605	12	1186.9
16606	12	1187.4
16607	12	1187.9
16608	12	1188.4
16609	12	1188.9
16610	12	1189.4
16611	12	1189.9
16612	12	1190.4
16613	12	1190.9
16614	12	1191.4
16615	12	1191.9
16616	12	1192.4
16617	12	1192.9
16618	12	1193.4
16619	12	1193.9
16620	12	1194.4
16621	12	1194.9
16622	12	1195.5
16623	12	1196.0
16624	12	1196.5
16625	12	1197.0
16626	12	1197.5
16627	12	1198.0
16628	12	1198.5
16629	12	1199.0
16630	12	1199.5
16631	12	1200.0
16632	12	1200.5
16633	12	1201.0
16634	12	1201.5
16635	12	1202.1
16636	12	1202.6
16637	12	1203.1
16638	12	1203.6
16639	12	1204.1
16640	12	1204.6
16641	12	1205.1
16642	12	1205.6
16643	12	1206.1
16644	12	1206.6
16645	12	1207.1
16646	12	1207.6
16647	12	1208.1
16648	12	1208.7
16649	12	1209.2
16650	12	1209.7
16651	12	1210.2
16652	12	1210.7
16653	12	1211.2
16654	12	1211.7
16655	12	1212.2
16656	12	1212.7
16657	12	1213.2
16658	12	1213.7
16659	12	1214.2
16660	12	1214.7
16661	12	1215.3
16662	12	1215.8
16663	12	1216.3
16664	12	1216.8
16665	12	1217.3
16666	12	1217.8
16667	12	1218.3
16668	12	1218.8
16669	12	1219.3
16670	12	1219.8
16671	12	1220.3
16672	12	1220.8
16673	12	1221.3
16674	12	1221.9
16675	12	1222.4
16676	12	1222.9
16677	12	1223.4
16678	12	1223.9
16679	12	1224.4
16680	12	1224.9
16681	12	1225.4
16682	12	1225.9
16683	12	1226.4
16634	12	1226.9
16685	12	1227.4
16686	12	1227.9
16687	12	1228.4
16688	12	1228.9
16689	12	1229.4
16690	12	1229.9
16691	12	1230.4
16692	12	1230.9
16693	12	1231.4
16694	12	1231.9
16695	12	1232.5
16696	12	1233.0
16697	12	1233.5
16698	12	1234.0
16699	12	1234.5
16700	12	1235.0

Use check point at 16800 Kc

Frequency: 16500—16600 Kc

Freq.	*A*	*B*
16500	12	1133.8
16501	12	1134.3
16502	12	1134.9
16503	12	1135.4
16504	12	1135.9
16505	12	1136.4
16506	12	1136.9
16507	12	1137.4
16508	12	1137.9
16509	12	1138.4
16510	12	1138.9
16511	12	1139.4
16512	12	1139.9
16513	12	1140.4
16514	12	1140.9
16515	12	1141.4
16516	12	1141.9
16517	12	1142.4
16518	12	1143.0
16519	12	1143.5
16520	12	1144.0
16521	12	1144.5
16522	12	1145.0
16523	12	1145.5
16524	12	1146.0
16525	12	1146.5
16526	12	1147.0
16527	12	1147.5
16528	12	1148.0
16529	12	1148.5
16530	12	1149.0
16531	12	1149.5
16532	12	1150.0
16533	12	1150.5
16534	12	1151.1
16535	12	1151.6
16536	12	1152.1
16537	12	1152.6
16538	12	1153.1
16539	12	1153.6
16540	12	1154.1
16541	12	1154.6
16542	12	1155.1
16543	12	1155.6
16544	12	1156.1
16545	12	1156.6
16546	12	1157.1
16547	12	1157.6
16548	12	1158.1
16549	12	1158.7
16550	12	1159.2
16551	12	1159.7
16552	12	1160.2
16553	12	1160.7
16554	12	1161.2
16555	12	1161.7
16556	12	1162.2
16557	12	1162.7
16558	12	1163.2
16559	12	1163.7
16560	12	1164.2
16561	12	1164.7
16562	12	1165.2
16563	12	1165.7
16564	12	1166.2
16565	12	1166.7
16566	12	1167.2
16567	12	1167.7
16568	12	1168.2
16569	12	1168.8
16570	12	1169.3
16571	12	1169.8
16572	12	1170.3
16573	12	1170.8
16574	12	1171.3
16575	12	1171.8
16576	12	1172.3
16577	12	1172.8
16578	12	1173.3
16579	12	1173.8
16580	12	1174.3
16581	12	1174.8
16582	12	1175.3
16583	12	1175.8
16584	12	1176.3
16585	12	1176.8
16586	12	1177.3
16587	12	1177.8
16588	12	1178.3
16589	12	1178.8
16590	12	1179.3
16591	12	1179.8
16592	12	1180.3
16593	12	1180.8
16594	12	1181.3
16595	12	1181.8
16596	12	1182.4
16597	12	1182.9
16598	12	1183.4
16599	12	1183.9
16600	12	1184.4

Use check point at 16800 Kc

Frequency: 16700—16800 Kc

Freq.	*A*	*B*
16700	12	1235.0
16701	12	1235.5
16702	12	1236.0
16703	12	1236.5
16704	12	1237.0
16705	12	1237.5
16706	12	1238.0
16707	12	1238.5
16708	12	1239.0
16709	12	1239.5
16710	12	1240.0
16711	12	1240.5
16712	12	1241.0
16713	12	1241.5
16714	12	1242.0
16715	12	1242.5
16716	12	1243.0
16717	12	1243.5
16718	12	1244.0
16719	12	1244.5
16720	12	1245.0
16721	12	1245.5
16722	12	1246.0
16723	12	1246.5
16724	12	1247.0
16725	12	1247.6
16726	12	1248.1
16727	12	1248.6
16728	12	1249.1
16729	12	1249.6
16730	12	1250.1
16731	12	1250.6
16732	12	1251.1
16733	12	1251.6
16734	12	1252.1
16735	12	1252.6
16736	12	1253.1
16737	12	1253.6
16738	12	1254.1
16739	12	1254.6
16740	12	1255.1
16741	12	1255.6
16742	12	1256.1
16743	12	1256.6
16744	12	1257.1
16745	12	1257.6
16746	12	1258.1
16747	12	1258.6
16748	12	1259.1
16749	12	1259.6
16750	12	1260.1
16751	12	1260.6
16752	12	1261.1
16753	12	1261.6
16754	12	1262.1
16755	12	1262.7
16756	12	1263.2
16757	12	1263.7
16758	12	1264.2
16759	12	1264.7
16760	12	1265.2
16761	12	1265.7
16762	12	1266.2
16763	12	1266.7
16764	12	1267.2
16765	12	1267.7
16766	12	1268.2
16767	12	1268.7
16768	12	1269.2
16769	12	1269.7
16770	12	1270.2
16771	12	1270.7
16772	12	1271.2
16773	12	1271.7
16774	12	1272.2
16775	12	1272.7
16776	12	1273.2
16777	12	1273.7
16778	12	1274.2
16779	12	1274.7
16780	12	1275.2
16781	12	1275.7
16782	12	1276.2
16783	12	1276.7
16784	12	1277.2
16785	12	1277.8
16786	12	1278.3
16787	12	1278.8
16788	12	1279.3
16789	12	1279.8
16790	12	1280.3
16791	12	1280.8
16792	12	1281.3
16793	12	1281.8
16794	12	1282.3
16795	12	1282.8
16796	12	1283.3
16797	12	1283.8
16798	12	1284.3
16799	12	1284.8
16800	**12**	**1285.3**

Use check point at 16800 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 16000—16100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
16000	12	879.0	16034	12	896.3	16068	12	913.8
16001	12	879.5	16035	12	896.9	16069	12	914.4
16002	12	880.0	16036	12	897.4			
16003	12	880.5	16037	12	897.9	16070	12	914.9
16004	12	881.0	16038	12	898.4	16071	12	915.4
16005	12	881.5	16039	12	898.9	16072	12	915.9
16006	12	882.1				16073	12	916.4
16007	12	882.6	16040	12	899.4	16074	12	916.9
16008	12	883.1	16041	12	899.9	16075	12	917.4
16009	12	883.6	16042	12	900.5	16076	12	918.0
			16043	12	901.0	16077	12	918.5
16010	12	884.1	16044	12	901.5	16078	12	919.0
16011	12	884.6	16045	12	902.0	16079	12	919.5
16012	12	885.1	16046	12	902.5			
16013	12	885.6	16047	12	903.0	16080	12	920.0
16014	12	886.1	16048	12	903.6	16081	12	920.5
16015	12	886.6	16049	12	904.1	16082	12	921.0
16016	12	887.1				16083	12	921.6
16017	12	887.6	16050	12	904.6	16084	12	922.1
16018	12	888.1	16051	12	905.1	16085	12	922.6
16019	12	888.6	16052	12	905.6	16086	12	923.1
			16053	12	906.1	16087	12	923.6
16020	12	889.1	16054	12	906.6	16088	12	924.1
16021	12	889.7	16055	12	907.2	16089	12	924.6
16022	12	890.2	16056	12	907.7			
16023	12	890.7	16057	12	908.2	16090	12	925.1
16024	12	891.2	16058	12	908.7	16091	12	925.6
16025	12	891.7	16059	12	909.2	16092	12	926.1
16026	12	892.2				16093	12	926.7
16027	12	892.7	16060	12	909.7	16094	12	927.2
16028	12	893.3	16061	12	910.2	16095	12	927.7
16029	12	893.8	16062	12	910.8	16096	12	928.2
			16063	12	911.3	16097	12	928.7
16030	12	894.3	16064	12	911.8	16098	12	929.2
16031	12	894.8	16065	12	912.3	16099	12	929.7
16032	12	895.3	16066	12	912.8			
16033	12	895.8	16067	12	913.3	16100	12	930.2

Use check point at 16200 Kc

Frequency: 16200—16300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
16200	**12**	**981.4**	16234	12	998.7	16268	12	1016.0
16201	12	981.9	16235	12	999.2	16269	12	1016.5
16202	12	982.4	16236	12	999.7			
16203	12	982.9	16237	12	1000.2	16270	12	1017.0
16204	12	983.4	16238	12	1000.7	16271	12	1017.6
16205	12	983.9	16239	12	1001.3	16272	12	1018.1
16206	12	984.4				16273	12	1018.6
16207	12	984.9	16240	12	1001.8	16274	12	1019.1
16208	12	985.4	16241	12	1002.3	16275	12	1019.6
16209	12	986.0	16242	12	1002.8	16276	12	1020.1
			16243	12	1003.3	16277	12	1020.6
16210	12	986.5	16244	12	1003.8	16278	12	1021.1
16211	12	987.0	16245	12	1004.3	16279	12	1021.6
16212	12	987.5	16246	12	1004.8			
16213	12	988.0	16247	12	1005.3	16280	12	1022.1
16214	12	988.5	16248	12	1005.8	16281	12	1022.6
16215	12	989.0	16249	12	1006.4	16282	12	1023.2
16216	12	989.5				16283	12	1023.7
16217	12	990.0	16250	12	1006.7	16284	12	1024.2
16218	12	990.5	16251	12	1007.4	16285	12	1024.7
16219	12	991.1	16252	12	1007.9	16286	12	1025.2
			16253	12	1008.4	16287	12	1025.7
16220	12	991.6	16254	12	1008.9	16288	12	1026.2
16221	12	992.1	16255	12	1009.4	16289	12	1026.7
16222	12	992.6	16256	12	1009.9			
16223	12	993.1	16257	12	1010.4	16290	12	1027.2
16224	12	993.6	16258	12	1010.9	16291	12	1027.7
16225	12	994.1	16259	12	1011.5	16292	12	1028.2
16226	12	994.6				16293	12	1028.7
16227	12	995.1	16260	12	1012.0	16294	12	1029.3
16228	12	995.6	16261	12	1012.5	16295	12	1029.8
16229	12	996.2	16262	12	1013.0	16296	12	1030.3
			16263	12	1013.5	16297	12	1030.8
16230	12	996.7	16264	12	1014.0	16298	12	1031.3
16231	12	997.2	16265	12	1014.5	16299	12	1031.8
16232	12	997.9	16266	12	1015.0			
16233	12	998.2	16267	12	1015.5	16300	12	1032.3

Use check point at 16200 Kc

Frequency: 16100—16200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
16100	12	930.2	16134	12	947.6	16168	12	965.0
16101	12	930.7	16135	12	948.1	16169	12	965.5
16102	12	931.3	16136	12	948.6			
16103	12	931.8	16137	12	949.1	16170	12	966.0
16104	12	932.3	16138	12	949.6	16171	12	966.5
16105	12	932.8	16139	12	950.1	16172	12	967.0
16106	12	933.3				16173	12	967.5
16107	12	933.8	16140	12	950.7	16174	12	968.1
16108	12	934.3	16141	12	951.2	16175	12	968.6
16109	12	934.8	16142	12	951.7	16176	12	969.1
			16143	12	952.2	16177	12	969.6
16110	12	935.3	16144	12	952.7	16178	12	970.1
16111	12	935.9	16145	12	953.2	16179	12	970.6
16112	12	936.4	16146	12	953.7			
16113	12	936.9	16147	12	954.2	16180	12	971.1
16114	12	937.4	16148	12	954.8	16181	12	971.6
16115	12	937.9	16149	12	955.3	16182	12	972.2
16116	12	938.4				16183	12	972.7
16117	12	938.9	16150	12	955.8	16184	12	973.2
16118	12	939.4	16151	12	956.3	16185	12	973.7
16119	12	939.9	16152	12	956.8	16186	12	974.2
			16153	12	957.3	16187	12	974.7
16120	12	940.4	16154	12	957.8	16188	12	975.2
16121	12	941.0	16155	12	958.3	16189	12	975.7
16122	12	941.5	16156	12	958.8			
16123	12	942.0	16157	12	959.4	16190	12	976.2
16124	12	942.5	16158	12	959.9	16191	12	976.8
16125	12	943.0	16159	12	960.4	16192	12	977.3
16126	12	943.5				16193	12	977.8
16127	12	944.0	16160	12	960.9	16194	12	978.3
16128	12	944.5	16161	12	961.4	16195	12	978.8
16129	12	945.0	16162	12	961.9	16196	12	979.3
			16163	12	962.4	16197	12	979.8
16130	12	945.6	16164	12	962.9	16198	12	980.3
16131	12	946.1	16165	12	963.5	16199	12	980.8
16132	12	946.6	16166	12	964.0			
16133	12	947.1	16167	12	964.5	**16200**	**12**	**981.4**

Use check point at 16200 Kc

Frequency: 16300—16400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
16300	12	1032.3	16334	12	1049.6	16368	12	1066.9
16301	12	1032.8	16335	12	1050.1	16369	12	1067.4
16302	12	1033.3	16336	12	1050.6			
16303	12	1033.8	16337	12	1051.1	16370	12	1067.9
16304	12	1034.3	16338	12	1051.6	16371	12	1068.4
16305	12	1034.9	16339	12	1052.1	16372	12	1068.9
16306	12	1035.4				16373	12	1069.4
16307	12	1035.9	16340	12	1052.6	16374	12	1069.9
16308	12	1036.4	16341	12	1053.2	16375	12	1070.4
16309	12	1036.9	16342	12	1053.7	16376	12	1070.9
			16343	12	1054.2	16377	12	1071.5
16310	12	1037.4	16344	12	1054.7	16378	12	1072.0
16311	12	1037.9	16345	12	1055.2	16379	12	1072.5
16312	12	1038.4	16346	12	1055.7			
16313	12	1038.9	16347	12	1056.2	16380	12	1073.0
16314	12	1039.4	16348	12	1056.7	16381	12	1073.5
16315	12	1039.9	16349	12	1057.2	16382	12	1074.0
16316	12	1040.4				16383	12	1074.5
16317	12	1041.0	16350	12	1057.7	16384	12	1075.0
16318	12	1041.5	16351	12	1058.2	16385	12	1075.5
16319	12	1042.0	16352	12	1058.7	16386	12	1076.0
			16353	12	1059.3	16387	12	1076.5
16320	12	1042.5	16354	12	1059.8	16388	12	1077.0
16321	12	1043.0	16355	12	1060.3	16389	12	1077.5
16322	12	1043.5	16356	12	1060.8			
16323	12	1044.0	16357	12	1061.3	16390	12	1078.1
16324	12	1044.5	16358	12	1061.8	16391	12	1078.6
16325	12	1045.0	16359	12	1062.3	16392	12	1079.1
16326	12	1045.5				16393	12	1079.6
16327	12	1046.0	16360	12	1062.8	16394	12	1080.1
16328	12	1046.5	16361	12	1063.3	16395	12	1080.6
16329	12	1047.1	16362	12	1063.8	16396	12	1081.1
			16363	12	1064.3	16397	12	1081.6
16330	12	1047.6	16364	12	1064.8	16398	12	1082.1
16331	12	1048.1	16365	12	1065.4	16399	12	1082.6
16332	12	1048.6	16366	12	1065.9			
16333	12	1049.1	16367	12	1066.4	16400	12	1083.1

Use check point at 16200 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 17200—17300 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17200	12	1487.9	17234	12	1505.2	17268	12	1522.5
17201	12	1488.4	17235	12	1505.7	17269	12	1523.1
17202	12	1488.9	17236	12	1506.2			
17203	12	1489.4	17237	12	1506.7	17270	12	1523.6
17204	12	1489.9	17238	12	1507.2	17271	12	1524.1
17205	12	1490.4	17239	12	1507.7	17272	12	1524.6
17206	12	1490.9				17273	12	1525.1
17207	12	1491.4	17240	12	1508.2	17274	12	1525.6
17208	12	1491.9	17241	12	1508.8	17275	12	1526.1
17209	12	1492.5	17242	12	1509.3	17276	12	1526.6
			17243	12	1509.8	17277	12	1527.1
17210	12	1493.0	17244	12	1510.3	17278	12	1527.7
17211	12	1493.5	17245	12	1510.8	17279	12	1528.2
17212	12	1494.0	17246	12	1511.3			
17213	12	1494.5	17247	12	1511.8	17280	12	1528.7
17214	12	1495.0	17248	12	1512.3	17281	12	1529.2
17215	12	1495.5	17249	12	1512.8	17282	12	1529.7
17216	12	1496.0				17283	12	1530.2
17217	12	1496.5	17250	12	1513.4	17284	12	1530.7
17218	12	1497.0	17251	12	1513.9	17285	12	1531.2
17219	12	1497.5	17252	12	1514.4	17286	12	1531.7
			17253	12	1514.9	17287	12	1532.3
17220	12	1498.0	17254	12	1515.4	17288	12	1532.8
17221	12	1498.5	17255	12	1515.9	17289	12	1533.3
17222	12	1499.0	17256	12	1516.4			
17223	12	1499.6	17257	12	1516.9	17290	12	1533.8
17224	12	1500.1	17258	12	1517.4	17291	12	1534.3
17225	12	1500.6	17259	12	1517.9	17292	12	1534.8
17226	12	1501.1				17293	12	1535.3
17227	12	1501.6	17260	12	1518.5	17294	12	1535.8
17228	12	1502.1	17261	12	1519.0	17295	12	1536.3
17229	12	1502.6	17262	12	1519.5	17296	12	1536.8
			17263	12	1520.0	17297	12	1537.4
17230	12	1503.1	17264	12	1520.5	17298	12	1537.9
17231	12	1503.6	17265	12	1521.0	17299	12	1538.4
17232	12	1504.2	17266	12	1521.5			
17233	12	1504.7	17267	12	1522.0	17300	12	1538.9

Use check point at 17400 Kc

Frequency: 17300—17400 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17300	12	1538.9	17334	12	1556.2	17368	12	1573.7
17301	12	1539.4	17335	12	1556.7	17369	12	1574.2
17302	12	1539.9	17336	12	1557.2			
17303	12	1540.4	17337	12	1557.8	17370	12	1574.7
17304	12	1540.9	17338	12	1558.3	17371	12	1575.2
17305	12	1541.4	17339	12	1558.8	17372	12	1575.7
17306	12	1541.9				17373	12	1576.2
17307	12	1542.5	17340	12	1559.3	17374	12	1576.7
17308	12	1543.0	17341	12	1559.8	17375	12	1577.2
17309	12	1543.5	17342	12	1560.3	17376	12	1577.8
			17343	12	1560.8	17377	12	1578.3
17310	12	1544.0	17344	12	1561.3	17378	12	1578.8
17311	12	1544.5	17345	12	1561.8	17379	12	1579.3
17312	12	1545.0	17346	12	1562.4			
17313	12	1545.5	17347	12	1562.9	17380	12	1579.8
17314	12	1546.0	17348	12	1563.4	17381	12	1580.3
17315	12	1546.5	17349	12	1563.9	17382	12	1580.8
17316	12	1547.0				17383	12	1581.4
17317	12	1547.6	17350	12	1564.4	17384	12	1581.9
17318	12	1548.1	17351	12	1564.9	17385	12	1582.4
17319	12	1548.6	17352	12	1565.4	17386	12	1582.9
			17353	12	1566.0	17387	12	1583.4
17320	12	1549.1	17354	12	1566.5	17388	12	1583.9
17321	12	1549.6	17355	12	1567.0	17389	12	1584.4
17322	12	1550.1	17356	12	1567.5			
17323	12	1550.6	17357	12	1568.0	17390	12	1584.9
17324	12	1551.1	17358	12	1568.5	17391	12	1585.5
17325	12	1551.6	17359	12	1569.0	17392	12	1586.0
17326	12	1552.1				17393	12	1586.5
17327	12	1552.7	17360	12	1569.5	17394	12	1587.0
17328	12	1553.2	17361	12	1570.1	17395	12	1587.5
17329	12	1553.7	17362	12	1570.6	17396	12	1588.0
			17363	12	1571.1	17397	12	1588.5
17330	12	1554.2	17364	12	1571.6	17398	12	1589.1
17331	12	1554.7	17365	12	1572.1	17399	12	1589.6
17332	12	1555.2	17366	12	1572.6			
17333	12	1555.7	17367	12	1573.1	**17400**	**12**	**1590.1**

Use check point at 17400 Kc

Frequency: 17400—17500 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17400	**12**	**1590.1**	17434	12	1607.6	17468	12	1625.2
17401	12	1590.6	17435	12	1608.2	17469	12	1625.7
17402	12	1591.1	17436	12	1608.7			
17403	12	1591.6	17437	12	1609.2	17470	12	1626.3
17404	12	1592.1	17438	12	1609.7	17471	12	1626.8
17405	12	1592.7	17439	12	1610.2	17472	12	1627.3
17406	12	1593.2				17473	12	1627.8
17407	12	1593.7	17440	12	1610.7	17474	12	1628.3
17408	12	1594.2	17441	12	1611.2	17475	12	1628.9
17409	12	1594.7	17442	12	1611.8	17476	12	1629.4
			17443	12	1612.3	17477	12	1629.9
17410	12	1595.2	17444	12	1612.8	17478	12	1630.4
17411	12	1595.8	17445	12	1613.3	17479	12	1630.9
17412	12	1596.3	17446	12	1613.8			
17413	12	1596.8	17447	12	1614.3	17480	12	1631.5
17414	12	1597.3	17448	12	1614.9	17481	12	1632.0
17415	12	1597.8	17449	12	1615.4	17482	12	1632.5
17416	12	1598.3				17483	12	1633.0
17417	12	1598.9	17450	12	1615.9	17484	12	1633.5
17418	12	1599.4	17451	12	1616.4	17485	12	1634.1
17419	12	1599.9	17452	12	1616.9	17486	12	1634.6
			17453	12	1617.4	17487	12	1635.1
17420	12	1600.4	17454	12	1618.0	17488	12	1635.6
17421	12	1600.9	17455	12	1618.5	17489	12	1636.1
17422	12	1601.4	17456	12	1619.0			
17423	12	1602.0	17457	12	1619.5	17490	12	1636.7
17424	12	1602.5	17458	12	1620.0	17491	12	1637.2
17425	12	1603.0	17459	12	1620.5	17492	12	1637.7
17426	12	1603.5				17493	12	1638.2
17427	12	1604.0	17460	12	1621.1	17494	12	1638.7
17428	12	1604.5	17461	12	1621.6	17495	12	1639.3
17429	12	1605.1	17462	12	1622.1	17496	12	1639.8
			17463	12	1622.6	17497	12	1640.3
17430	12	1605.6	17464	12	1623.1	17498	12	1640.8
17431	12	1606.1	17465	12	1623.7	17499	12	1641.3
17432	12	1606.6	17466	12	1624.2			
17433	12	1607.1	17467	12	1624.7	17500	12	1641.9

Use check point at 17400 Kc

Frequency: 17500—17600 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17500	12	1641.9	17534	12	1659.6	17568	12	1677.3
17501	12	1642.4	17535	12	1660.1	17569	12	1677.8
17502	12	1642.9	17536	12	1660.6			
17503	12	1643.4	17537	12	1661.1	17570	12	1678.3
17504	12	1643.9	17538	12	1661.7	17571	12	1678.9
17505	12	1644.5	17539	12	1662.2	17572	12	1679.4
17506	12	1645.0				17573	12	1679.9
17507	12	1645.5	17540	12	1662.7	17574	12	1680.4
17508	12	1646.0	17541	12	1663.2	17575	12	1681.0
17509	12	1646.5	17542	12	1663.7	17576	12	1681.5
			17543	12	1664.3	17577	12	1682.0
17510	12	1647.1	17544	12	1664.8	17578	12	1682.5
17511	12	1647.6	17545	12	1665.3	17579	12	1683.0
17512	12	1648.1	17546	12	1665.8			
17513	12	1648.6	17547	12	1666.3	17580	12	1683.6
17514	12	1649.1	17548	12	1666.9	17581	12	1684.1
17515	12	1649.7	17549	12	1667.4	17582	12	1684.6
17516	12	1650.2				17583	12	1685.1
17517	12	1650.7	17550	12	1667.9	17584	12	1685.7
17518	12	1651.2	17551	12	1668.4	17585	12	1686.2
17519	12	1651.7	17552	12	1669.0	17586	12	1686.7
			17553	12	1669.5	17587	12	1687.2
17520	12	1652.3	17554	12	1670.0	17588	12	1687.8
17521	12	1652.8	17555	12	1670.5	17589	12	1688.3
17522	12	1653.3	17556	12	1671.0			
17523	12	1653.8	17557	12	1671.6	17590	12	1688.8
17524	12	1654.3	17558	12	1672.1	17591	12	1689.3
17525	12	1654.9	17559	12	1672.6	17592	12	1689.9
17526	12	1655.4				17593	12	1690.4
17527	12	1655.9	17560	12	1673.1	17594	12	1690.9
17528	12	1656.4	17561	12	1673.6	17595	12	1691.4
17529	12	1657.0	17562	12	1674.2	17596	12	1692.0
			17563	12	1674.7	17597	12	1692.5
17530	12	1657.5	17564	12	1675.2	17598	12	1693.0
17531	12	1658.0	17565	12	1675.7	17599	12	1693.6
17532	12	1658.5	17566	12	1676.3			
17533	12	1659.0	17567	12	1676.8	17600	12	1694.1

Use check point at 17400 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 16800—16900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
16800	**12**	**1285.3**	16834	12	1302.5	16868	12	1319.7
16801	12	1285.8	16835	12	1303.0	16869	12	1320.2
16802	12	1286.3	16836	12	1303.5			
16803	12	1286.8	16837	12	1304.0	16870	12	1320.7
16804	12	1287.3	16838	12	1304.5	16871	12	1321.2
16805	12	1287.8	16839	12	1305.0	16872	12	1321.7
16806	12	1288.3				16873	12	1322.2
16807	12	1288.8	16840	12	1305.5	16874	12	1322.7
16808	12	1289.3	16841	12	1306.0	16875	12	1323.2
16809	12	1289.9	16842	12	1306.6	16876	12	1323.7
			16843	12	1307.1	16877	12	1324.2
16810	12	1290.4	16844	12	1307.6	16878	12	1324.8
16811	12	1290.9	16845	12	1308.1	16879	12	1325.3
16812	12	1291.4	16846	12	1308.6			
16813	12	1291.9	16847	12	1309.1	16880	12	1325.8
16814	12	1292.4	16848	12	1309.6	16881	12	1326.3
16815	12	1292.9	16849	12	1310.1	16882	12	1326.8
16816	12	1293.4				16883	12	1327.3
16817	12	1293.9	16850	12	1310.6	16884	12	1327.8
16818	12	1294.4	16851	12	1311.1	16885	12	1328.3
16819	12	1294.9	16852	12	1311.6	16886	12	1328.8
			16853	12	1312.1	16887	12	1329.3
16820	12	1295.4	16854	12	1312.6	16888	12	1329.8
16821	12	1295.9	16855	12	1313.1	16889	12	1330.3
16822	12	1296.4	16856	12	1313.6			
16823	12	1296.9	16857	12	1314.1	16890	12	1330.8
16824	12	1297.4	16858	12	1314.6	16891	12	1331.3
16825	12	1298.0	16859	12	1315.2	16892	12	1331.8
16826	12	1298.5				16893	12	1332.3
16827	12	1299.0	16860	12	1315.7	16894	12	1332.8
16828	12	1299.5	16861	12	1316.2	16895	12	1333.3
16829	12	1300.0	16862	12	1316.7	16896	12	1333.8
			16863	12	1317.2	16897	12	1334.3
16830	12	1300.5	16864	12	1317.7	16898	12	1334.9
16831	12	1301.0	16865	12	1318.2	16899	12	1335.4
16832	12	1301.5	16866	12	1318.7			
16833	12	1302.0	16867	12	1319.2	16900	12	1335.9

Use check point at 16800 Kc

Frequency: 17000—17100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17000	12	1386.4	17034	12	1403.6	17068	12	1420.8
17001	12	1386.9	17035	12	1404.1	17069	12	1421.3
17002	12	1387.4	17036	12	1404.6			
17003	12	1387.9	17037	12	1405.1	17070	12	1421.8
17004	12	1388.4	17038	12	1405.6	17071	12	1422.3
17005	12	1388.9	17039	12	1406.1	17072	12	1422.8
17006	12	1389.4				17073	12	1423.4
17007	12	1389.9	17040	12	1406.6	17074	12	1423.9
17008	12	1390.4	17041	12	1407.1	17075	12	1424.4
17009	12	1390.9	17042	12	1407.6	17076	12	1424.9
			17043	12	1408.1	17077	12	1425.4
17010	12	1391.4	17044	12	1408.6	17078	12	1425.9
17011	12	1391.9	17045	12	1409.1	17079	12	1426.4
17012	12	1392.5	17046	12	1409.6			
17013	12	1393.0	17047	12	1410.2	17080	12	1426.9
17014	12	1393.5	17048	12	1410.7	17081	12	1427.4
17015	12	1394.0	17049	12	1411.2	17082	12	1427.9
17016	12	1394.5				17083	12	1428.4
17017	12	1395.0	17050	12	1411.7	17084	12	1428.9
17018	12	1395.5	17051	12	1412.2	17085	12	1429.4
17019	12	1396.0	17052	12	1412.7	17086	12	1430.0
			17053	12	1413.2	17087	12	1430.5
17020	12	1396.5	17054	12	1413.7	17088	12	1431.0
17021	12	1397.0	17055	12	1414.2	17089	12	1431.5
17022	12	1397.5	17056	12	1414.7			
17023	12	1398.0	17057	12	1415.2	17090	12	1432.0
17024	12	1398.5	17058	12	1415.7	17091	12	1432.5
17025	12	1399.0	17059	12	1416.2	17092	12	1433.0
17026	12	1399.5				17093	12	1433.5
17027	12	1400.0	17060	12	1416.8	17094	12	1434.0
17028	12	1400.5	17061	12	1417.3	17095	12	1434.5
17029	12	1401.0	17062	12	1417.8	17096	12	1435.0
			17063	12	1418.3	17097	12	1435.5
17030	12	1401.5	17064	12	1418.8	17098	12	1436.0
17031	12	1402.1	17065	12	1419.3	17099	12	1436.6
17032	12	1402.6	17066	12	1419.8			
17033	12	1403.1	17067	12	1420.3	17100	12	1437.1

Use check point at 16800 Kc

Frequency: 16900—17000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
16900	12	1335.9	16934	12	1353.0	16968	12	1370.2
16901	12	1336.4	16935	12	1353.5	16969	12	1370.7
16902	12	1336.9	16936	12	1354.0			
16903	12	1337.4	16937	12	1354.6	16970	12	1371.2
16904	12	1337.9	16938	12	1355.1	16971	12	1371.7
16905	12	1338.4	16939	12	1355.6	16972	12	1372.2
16906	12	1338.9				16973	12	1372.7
16907	12	1339.4	16940	12	1356.1	16974	12	1373.2
16908	12	1339.9	16941	12	1356.6	16975	12	1373.8
16909	12	1340.4	16942	12	1357.1	16976	12	1374.3
			16943	12	1357.6	16977	12	1374.8
16910	12	1340.9	16944	12	1358.1	16978	12	1375.3
16911	12	1341.4	16945	12	1358.6	16979	12	1375.8
16912	12	1341.9	16946	12	1359.1			
16913	12	1342.4	16947	12	1359.6	16980	12	1376.3
16914	12	1342.9	16948	12	1360.1	16981	12	1376.8
16915	12	1343.4	16949	12	1360.6	16982	12	1377.3
16916	12	1343.9				16983	12	1377.8
16917	12	1344.4	16950	12	1361.1	16984	12	1378.3
16918	12	1345.0	16951	12	1361.6	16985	12	1378.8
16919	12	1345.5	16952	12	1362.1	16986	12	1379.3
			16953	12	1362.6	16987	12	1379.8
16920	12	1346.0	16954	12	1363.1	16988	12	1380.3
16921	12	1346.5	16955	12	1363.6	16989	12	1380.8
16922	12	1347.0	16956	12	1364.2			
16923	12	1347.5	16957	12	1364.7	16990	12	1381.3
16924	12	1348.0	16958	12	1365.2	16991	12	1381.8
16925	12	1348.5	16959	12	1365.7	16992	12	1382.3
16926	12	1349.0				16993	12	1382.8
16927	12	1349.5	16960	12	1366.2	16994	12	1383.4
16928	12	1350.0	16961	12	1366.7	16995	12	1383.9
16929	12	1350.5	16962	12	1367.2	16996	12	1384.4
			16963	12	1367.7	16997	12	1384.9
16930	12	1351.0	16964	12	1368.2	16998	12	1385.4
16931	12	1351.5	16965	12	1368.7	16999	12	1385.9
16932	12	1352.0	16966	12	1369.2			
16933	12	1352.5	16967	12	1369.7	17000	12	1386.4

Use check point at 16800 Kc

Frequency: 17100—17200 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17100	12	1437.1	17134	12	1454.4	17168	12	1471.7
17101	12	1437.6	17135	12	1454.9	17169	12	1472.2
17102	12	1438.1	17136	12	1455.4			
17103	12	1438.6	17137	12	1455.9	17170	12	1472.7
17104	12	1439.1	17138	12	1456.4	17171	12	1473.2
17105	12	1439.6	17139	12	1456.9	17172	12	1473.7
17106	12	1440.1				17173	12	1474.2
17107	12	1440.6	17140	12	1457.4	17174	12	1474.7
17108	12	1441.1	17141	12	1458.0	17175	12	1475.2
17109	12	1441.6	17142	12	1458.5	17176	12	1475.7
			17143	12	1459.0	17177	12	1476.2
17110	12	1442.2	17144	12	1459.5	17178	12	1476.8
17111	12	1442.7	17145	12	1460.0	17179	12	1477.3
17112	12	1443.2	17146	12	1460.5			
17113	12	1443.7	17147	12	1461.0	17180	12	1477.8
17114	12	1444.2	17148	12	1461.5	17181	12	1478.3
17115	12	1444.7	17149	12	1462.0	17182	12	1478.8
17116	12	1445.2				17183	12	1479.3
17117	12	1445.7	17150	12	1462.5	17184	12	1479.8
17118	12	1446.2	17151	12	1463.1	17185	12	1480.3
17119	12	1446.7	17152	12	1463.6	17186	12	1480.8
			17153	12	1464.1	17187	12	1481.3
17120	12	1447.3	17154	12	1464.6	17188	12	1481.8
17121	12	1447.8	17155	12	1465.1	17189	12	1482.3
17122	12	1448.3	17156	12	1465.6			
17123	12	1448.8	17157	12	1466.1	17190	12	1482.8
17124	12	1449.3	17158	12	1466.6	17191	12	1483.3
17125	12	1449.8	17159	12	1467.1	17192	12	1483.8
17126	12	1450.3				17193	12	1484.3
17127	12	1450.8	17160	12	1467.6	17194	12	1484.9
17128	12	1451.3	17161	12	1468.1	17195	12	1485.4
17129	12	1451.8	17162	12	1468.7	17196	12	1485.9
			17163	12	1469.2	17197	12	1486.4
17130	12	1452.4	17164	12	1469.7	17198	12	1486.9
17131	12	1452.9	17165	12	1470.2	17199	12	1487.4
17132	12	1453.4	17166	12	1470.7			
17133	12	1453.9	17167	12	1471.2	17200	12	1487.9

Use check point at 17400 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 18000—18100 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
18000	**12**	**1910.0**	18034	12	1929.1	18068	12	1948.3
18001	12	1910.6	18035	12	1929.7	18069	12	1948.8
18002	12	1911.1	18036	12	1930.2			
18003	12	1911.7	18037	12	1930.8	18070	12	1949.4
18004	12	1912.2	18038	12	1931.4	18071	12	1950.0
18005	12	1912.8	18039	12	1931.9	18072	12	1950.5
18006	12	1913.4				18073	12	1951.1
18007	12	1913.9	18040	12	1932.5	18074	12	1951.7
18008	12	1914.5	18041	12	1933.0	18075	12	1952.3
18009	12	1915.1	18042	12	1933.6	18076	12	1952.8
			18043	12	1934.2	18077	12	1953.4
18010	12	1915.6	18044	12	1934.7	18078	12	1954.0
18011	12	1916.2	18045	12	1935.3	18079	12	1954.5
18012	12	1916.7	18046	12	1935.9			
18013	12	1917.3	18047	12	1936.4	18080	12	1955.1
18014	12	1917.9	18048	12	1937.0	18081	12	1955.7
18015	12	1918.4	18049	12	1937.5	18082	12	1956.2
18016	12	1919.0				18083	12	1956.8
18017	12	1919.6	18050	12	1938.1	18084	12	1957.4
18018	12	1920.1	18051	12	1938.7	18085	12	1957.9
18019	12	1920.7	18052	12	1939.2	18086	12	1958.5
			18053	12	1939.8	18087	12	1959.1
18020	12	1921.2	18054	12	1940.3	18088	12	1959.7
18021	12	1921.8	18055	12	1940.9	18089	12	1960.2
18022	12	1922.4	18056	12	1941.5			
18023	12	1922.9	18057	12	1942.0	18090	12	1960.8
18024	12	1923.5	18058	12	1942.6	18091	12	1961.4
18025	12	1924.1	18059	12	1943.2	18092	12	1961.9
18026	12	1924.6				18093	12	1962.5
18027	12	1925.2	18060	12	1943.7	18094	12	1963.1
18028	12	1925.7	18061	12	1944.3	18095	12	1963.6
18029	12	1926.3	18062	12	1944.9	18096	12	1964.2
			18063	12	1945.4	18097	12	1964.8
18030	12	1926.9	18064	12	1946.0	18098	12	1965.3
18031	12	1927.4	18065	12	1946.6	18099	12	1965.9
18032	12	1928.0	18066	12	1947.1			
18033	12	1928.5	18067	12	1947.7	18100	12	1966.5

Use check point at 18000 Kc

TABLE 5-2. CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED. (Continued)

Frequency: 17600—17700 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17600	12	1694.1	17634	12	1712.0	17668	12	1729.9
17601	12	1694.6	17635	12	1712.5	17669	12	1730.4
17602	12	1695.1	17636	12	1713.0			
17603	12	1695.7	17637	12	1713.5	17670	12	1731.0
17604	12	1696.2	17638	12	1714.1	17671	12	1731.5
17605	12	1696.7	17639	12	1714.6	17672	12	1732.0
17606	12	1697.2				17673	12	1732.5
17607	12	1697.8	17640	12	1715.1	17674	12	1733.1
17608	12	1698.3	17641	12	1715.6	17675	12	1733.6
17609	12	1698.8	17642	12	1716.2	17676	12	1734.1
			17643	12	1716.7	17677	12	1734.7
17610	12	1699.3	17644	12	1717.2	17678	12	1735.2
17611	12	1699.9	17645	12	1717.8	17679	12	1735.7
17612	12	1700.4	17646	12	1718.3			
17613	12	1700.9	17647	12	1718.8	17680	12	1736.2
17614	12	1701.4	17648	12	1719.3	17681	12	1736.8
17615	12	1702.0	17649	12	1719.9	17682	12	1737.3
17616	12	1702.5				17683	12	1737.8
17617	12	1703.0	17650	12	1720.4	17684	12	1738.4
17618	12	1703.5	17651	12	1720.9	17685	12	1738.9
17619	12	1704.1	17652	12	1721.5	17686	12	1739.4
			17653	12	1722.0	17687	12	1739.9
17620	12	1704.6	17654	12	1722.5	17688	12	1740.5
17621	12	1705.1	17655	12	1723.0	17689	12	1741.0
17622	12	1705.7	17656	12	1723.6			
17623	12	1706.2	17657	12	1724.1	17690	12	1741.5
17624	12	1706.7	17658	12	1724.6	17691	12	1742.0
17625	12	1707.2	17659	12	1725.2	17692	12	1742.6
17626	12	1707.8				17693	12	1743.1
17627	12	1708.3	17660	12	1725.7	17694	12	1743.6
17628	12	1708.8	17661	12	1726.2	17695	12	1744.1
17629	12	1709.3	17662	12	1726.7	17696	12	1744.4
			17663	12	1727.3	17697	12	1745.2
17630	12	1709.9	17664	12	1727.8	17698	12	1745.7
17631	12	1710.4	17665	12	1728.3	17699	12	1746.3
17632	12	1710.9	17666	12	1728.8			
17633	12	1711.4	17667	12	1729.4	17700	12	1746.8

Use check point at 17400 Kc

Frequency: 17800—17900 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17800	12	1800.4	17834	12	1818.8	17868	12	1837.2
17801	12	1801.0	17835	12	1819.3	17869	12	1837.7
17802	12	1801.5	17836	12	1819.8			
17803	12	1802.0	17837	12	1820.4	17870	12	1838.3
17804	12	1802.6	17838	12	1820.9	17871	12	1838.8
17805	12	1803.1	17839	12	1821.5	17872	12	1839.3
17806	12	1803.6				17873	12	1839.9
17807	12	1804.2	17840	12	1822.0	17874	12	1840.4
17808	12	1804.7	17841	12	1822.6	17875	12	1841.0
17809	12	1805.3	17842	12	1823.1	17876	12	1841.5
			17843	12	1823.6	17877	12	1842.1
17810	12	1805.8	17844	12	1824.2	17378	12	1842.6
17811	12	1806.3	17845	12	1824.7	17879	12	1843.1
17812	12	1806.9	17846	12	1825.3			
17813	12	1807.4	17847	12	1825.8	17880	12	1843.7
17814	12	1808.0	17848	12	1826.3	17881	12	1844.2
17815	12	1808.5	17849	12	1826.9	17882	12	1844.8
17816	12	1809.0				17883	12	1845.3
17817	12	1809.6	17850	12	1827.4	17884	12	1845.9
17818	12	1810.1	17851	12	1828.0	17885	12	1846.4
17819	12	1810.6	17852	12	1828.5	17886	12	1847.0
			17853	12	1829.1	17887	12	1847.5
17820	12	1811.2	17854	12	1829.6	17888	12	1848.1
17821	12	1811.7	17855	12	1830.1	17889	12	1848.6
17822	12	1812.3	17856	12	1830.7			
17823	12	1812.8	17857	12	1831.2	17890	12	1849.2
17824	12	1813.3	17858	12	1831.8	17891	12	1849.7
17825	12	1813.9	17859	12	1832.3	17892	12	1850.3
17826	12	1814.4				17893	12	1850.8
17827	12	1815.0	17860	12	1832.8	17894	12	1851.4
17828	12	1815.5	17861	12	1833.4	17895	12	1852.0
17829	12	1816.1	17862	12	1833.9	17896	12	1852.5
			17863	12	1834.5	17897	12	1853.1
17830	12	1816.6	17864	12	1835.0	17898	12	1853.6
17831	12	1817.1	17865	12	1835.6	17899	12	1854.2
17832	12	1817.7	17866	12	1836.1			
17833	12	1818.2	17867	12	1836.6	17900	12	1854.7

Use check point at 18000 Kc

Frequency: 17700—17800 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17700	12	1746.8	17734	12	1765.0	17768	12	1783.2
17701	12	1747.3	17735	12	1765.5	17769	12	1783.7
17702	12	1747.9	17736	12	1766.0			
17703	12	1748.4	17737	12	1766.6	17770	12	1784.3
17704	12	1748.9	17738	12	1767.1	17771	12	1784.8
17705	12	1749.5	17739	12	1767.7	17772	12	1785.3
17706	12	1750.0				17773	12	1785.9
17707	12	1750.5	17740	12	1768.2	17774	12	1786.4
17708	12	1751.1	17741	12	1768.7	17775	12	1787.0
17709	12	1751.6	17742	12	1769.3	17776	12	1787.5
			17743	12	1769.8	17777	12	1788.0
17710	12	1752.1	17744	12	1770.3	17778	12	1788.6
17711	12	1752.7	17745	12	1770.9	17779	12	1789.1
17712	12	1753.2	17746	12	1771.4			
17713	12	1753.8	17747	12	1771.9	17780	12	1789.6
17714	12	1754.3	17748	12	1772.5	17781	12	1790.2
17715	12	1754.8	17749	12	1773.0	17782	12	1790.7
17716	12	1755.4				17783	12	1791.3
17717	12	1755.9	17750	12	1773.5	17784	12	1791.8
17718	12	1756.4	17751	12	1774.1	17785	12	1792.3
17719	12	1757.0	17752	12	1774.6	17786	12	1792.9
			17753	12	1775.1	17787	12	1793.4
17720	12	1757.5	17754	12	1775.7	17788	12	1794.0
17721	12	1758.0	17755	12	1776.2	17789	12	1794.5
17722	12	1758.6	17756	12	1776.7			
17723	12	1759.1	17757	12	1777.3	17790	12	1795.0
17724	12	1759.6	17758	12	1777.8	17791	12	1795.6
17725	12	1760.2	17759	12	1778.3	17792	12	1796.1
17726	12	1760.7				17793	12	1796.6
17727	12	1761.2	17760	12	1778.9	17794	12	1797.2
17728	12	1761.8	17761	12	1779.4	17795	12	1797.7
17729	12	1762.3	17762	12	1780.0	17796	12	1798.3
			17763	12	1780.5	17797	12	1798.8
17730	12	1762.8	17764	12	1781.0	17798	12	1799.3
17731	12	1763.4	17765	12	1781.6	17799	12	1799.9
17732	12	1763.9	17766	12	1782.1			
17733	12	1764.4	17767	12	1782.6	17800	12	1800.4

Use check point at 18000 Kc

Frequency: 17900—18000 Kc

Freq.	*A*	*B*	*Freq.*	*A*	*B*	*Freq.*	*A*	*B*
17900	12	1854.7	17934	12	1873.5	17968	12	1892.3
17901	12	1855.3	17935	12	1874.0	17969	12	1892.8
17902	12	1855.8	17936	12	1874.6			
17903	12	1856.4	17937	12	1875.1	17970	12	1893.4
17904	12	1856.9	17938	12	1875.7	17971	12	1893.9
17905	12	1857.5	17939	12	1876.2	17972	12	1894.5
17906	12	1858.0				17973	12	1895.0
17907	12	1858.6	17940	12	1876.8	17974	12	1895.6
17908	12	1859.1	17941	12	1877.3	17975	12	1896.2
17909	12	1859.7	17942	12	1877.9	17976	12	1896.7
			17943	12	1878.4	17977	12	1897.3
17910	12	1860.2	17944	12	1879.0	17978	12	1897.8
17911	12	1860.8	17945	12	1879.5	17979	12	1898.4
17912	12	1861.3	17946	12	1880.1			
17913	12	1861.9	17947	12	1880.6	17980	12	1898.9
17914	12	1862.4	17948	12	1881.2	17981	12	1899.5
17915	12	1863.0	17949	12	1881.7	17982	12	1900.0
17916	12	1863.5				17983	12	1900.6
17917	12	1864.1	17950	12	1882.3	17984	12	1901.1
17918	12	1864.6	17951	12	1882.9	17985	12	1901.7
17919	12	1865.2	17952	12	1883.4	17986	12	1902.2
			17953	12	1884.0	17987	12	1902.8
17920	12	1865.7	17954	12	1884.5	17988	12	1903.4
17921	12	1866.3	17955	12	1885.1	17989	12	1903.9
17922	12	1866.8	17956	12	1885.6			
17923	12	1867.4	17957	12	1886.2	17990	12	1904.5
17924	12	1867.9	17958	12	1886.7	17991	12	1905.0
17925	12	1868.5	17959	12	1887.4	17992	12	1905.6
17926	12	1869.0				17993	12	1906.1
17927	12	1869.6	17960	12	1887.8	17994	12	1906.7
17928	12	1870.1	17961	12	1888.4	17995	12	1907.2
17929	12	1870.7	17962	12	1888.9	17996	12	1907.8
			17963	12	1889.5	17997	12	1908.3
17930	12	1871.2	17964	12	1890.1	17998	12	1908.9
17931	12	1871.8	17965	12	1890.6	17999	12	1909.4
17932	12	1872.3	17966	12	1891.2			
17933	12	1872.9	17967	12	1891.7	**18000**	**12**	**1910.0**

Use check point at 18000 Kc

TABLE 5-3. CALIBRATION OF OSCILLATOR 0-16/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED
200 Kc to 750 Kc

Freq.	*A*	*F*	*G*	
200	**13**	**1**	**393**	
202	13	1	469	
204	13	1	540	(30 divisions per kc)
206	13	1	609	
208	13	1	676	
210	13	1	739	
212	13	1	801	
214	13	1	861	
216	13	1	919	
218	13	1	976	
220	13	1	1030	
222	13	1	1084	
224	13	1	1136	
■ **225**	**13**	**1**	**1161**	
226	13	1	1187	(28 divisions per kc)
228	13	1	1237	
230	13	1	1286	
232	13	1	1334	
234	13	1	1381	
236	13	1	1426	
238	13	1	1472	
240	13	1	1515	
242	13	1	1560	
244	13	1	1603	
246	13	1	1646	
248	13	1	1688	(20 divisions per kc)
250	**13**	**1**	**1729**	
252	13	1	1770	
254	13	1	1810	
256	13	1	1851	
258	13	1	1890	
260	13	1	1929	
262	13	1	1968	
262	13	2	175	
264	13	2	242	
266	13	2	305	
267	13	2	325	(28 divisions per kc)
268	13	2	366	
270	13	2	423	
272	13	2	480	
274	13	2	533	
■ **275**	**13**	**2**	**559**	
276	13	2	585	
278	13	2	635	
280	13	2	684	
282	13	2	731	
284	13	2	778	
286	13	2	823	(21 divisions per kc)
288	13	2	868	
290	13	2	911	
292	13	2	953	
294	13	2	995	
296	13	2	1035	
298	13	2	1075	
300	**13**	**2**	**1114**	

Freq.	*A*	*F*	*G*	
300	**13**	**2**	**1114**	
302	13	2	1153	(18 divisions per kc)
304	13	2	1192	
306	13	2	1229	
308	13	2	1266	
310	13	2	1302	
312	13	2	1338	
314	13	2	1373	
316	13	2	1407	
318	13	2	1442	
320	13	2	1476	
322	13	2	1508	
324	13	2	1542	(16 divisions per kc)
■ **325**	**13**	**2**	**1558**	
326	13	2	1574	
328	13	2	1606	
330	13	2	1638	
332	13	2	1670	
333	13	2	1691	
334	13	2	1701	
336	13	2	1732	
338	13		1763	
340	13	2	1793	
342	13	2	1823	(17 divisions per kc)
344	13	2	1854	
346	13	2	1883	
348	13	2	1912	
350	**13**	**2**	**1942**	
352	13	2	1971	
354	13	2	2000	
356	13	2	2028	
350	**13**	**3**	**154**	
352	13	3	205	
354	13	3	255	
356	13	3	302	(21 divisions per kc)
358	13	3	347	
360	13	3	392	
362	13	3	434	
364	13	3	476	
366	1,3	3	515	
368	13	3	555	
370	13	3	593	
372	13	3	631	
374	13	3	668	
■ **375**	**13**	**3**	**686**	
376	13	3	704	
378	13	3	739.	
380	13	3	774	
382	13	3	808	(16 divisions per kc)
384	13	3	841	
386	13	3	874	
388	13	3	906	
390	13	3	938	
392	13	3	970	
394	13	3	1000	
396	13	3	1030	
398	13	3	1061	
400	**13**	**3**	**1090**	

Freq.	*A*	*F*	*G*	
400	**13**	**3**	**1090**	
402	13	3	1120	
404	13	3	1148	
406	13	3	1177	
408	13	3	1205	
410	13	3	1233	(13 divisions per kc)
412	13	3	1260	
414	13	3	1288	
416	13	3	1314	
418	13	3	1341	
420	13	3	1368	
422	13	3	1394	
424	13	3	1419	
■ **425**	**13**	**3**	**1432**	
426	13	3	1445	
428	13	3	1470	
430	13	3	1495	
432	13	3	1519	
434	13	3	1544	
436	13	3	1569	
438	13	3	1593	(11 divisions per kc)
440	13	3	1616	
442	13	3	1641	
444	13	3	1665	
446	13	3	1688	
448	13	3	1710	
450	**13**	**3**	**1734**	
452	13	3	1757	
454	13	3	1780	
456	13	3	1802	
458	13	3	1825	
460	13	3	1847	
462	13	3	1870	
464	13	3	1892	(11 divisions per kc)
466	13	3	1912	
467	**13**	**3**	**1921**	
468	13	3	1936	
470	13	3	1958	
472	13	3	1980	
474	13	3	2001	
■ **475**	**13**	**4**	**268**	
476	13	3	2022	
467	13	4	176	
468	13	4	191	
470	13	4	213	(11 divisions per kc)
472	13	4	235	
474	13	4	257	
■ **475**	**13**	**4**	**279**	
476	13	4	279	
478	13	4	300	
480	13	4	321	
482	13	4	342	
484	13	4	363	
486	13	4	383	(10 divisions per kc)
488	13	4	402	
490	13	4	422	
492	13	4	442	
494	13	4	462	
496	13	4	481	
498	13	4	499	
500	**13**	**4**	**518**	

Freq.	*A*	*F*	*G*	
500	**13**	**4**	**518**	(9 divi-ions per kc)
505	13	4	565	
510	13	4	609	
515	13	4	654	
520	13	4	697	
525	**13**	**4**	**739**	
530	13	4	781	(8 divisions per kc)
533	13	4	808	
535	13	4	821	
540	13	4	862	
545	13	4	901	
550	**13**	**4**	**940**	
555	13	4	978	
560	13	4	1016	
565	13	4	1053	
570	13	4	1090	
575	**13**	**4**	**1127**	
580	13	4	1163	
585	13	4	1198	(7 divisions per kc)
590	13	4	1234	
595	13	4	1270	
600	**13**	**4**	**1304**	
605	13	4	1340	
610	13	4	1375	
615	13	4	1408	
620	13	4	1444	
625	**13**	**4**	**1479**	
630	13	4	1512	
635	13	4	1548	
640	13	4	1584	
645	13	4	1618	(7 divisions per kc)
650	**13**	**4**	**1655**	
655	13	4	1691	
660	13	4	1728	
655	13	4	1766	
667	13	4	1779	
670	13	4	1804	
675	**13**	**4**	**1845**	
680	13	4	1886	
685	13	4	1928	(9 div.)
690	13	4	1976	
695	13	4	2023	
695	13	5	156	
700	**13**	**5**	**195**	
705	13	5	231	(7 divisions per kc)
710	13	5	269	
715	13	5	303	
720	13	5	338	
725	**13**	**5**	**373**	
730	13	5	406	
733	13	5	427	
735	13	5	438	
740	13	5	471	
745	13	5	502	
750	**13**	**5**	**533**	

Use nearest check point shown in heavy type.

TABLE 5-3

CALIBRATION OF OSCILLATOR 0-16/ART-13
WHEN MCW-CFI 8Q-2 UNIT IS USED

200 Kc to 1500 Kc

TABLE 5-4

CALIBRATION OF OSCILLATOR 0-17/ART-13A WHEN MCW-CFI 8Q-1 UNIT IS USED

200 Kc to 600 Kc

TABLE 5-3. CALIBRATION OF OSCILLATOR 0-16/ART-13 WHEN MCW-CFI 8Q-2 UNIT IS USED (Continued)

750 Kc to 1500 Kc

Freq.	*A*	*F*	*G*	
750	**13**	**5**	**533**	(5 div. per kc)
755	13	5	565	
760	13	5	594	
765	13	5	624	
770	13	5	654	
775	**13**	**5**	**683**	(5.5 div. per kc)
780	13	5	711	
785	13	5	739	
790	13	5	768	
795	13	5	795	
800	**13**	**5**	**821**	
805	13	5	849	
810	13	5	876	
815	13	5	901	
820	13	5	927	
825	**13**	**5**	**953**	
830	13	5	979	
835	13	5	1004	(4.8 divisions per kc)
840	13	5	1029	
845	13	5	1054	
850	**13**	**5**	**1079**	
855	13	5	1103	
860	13	5	1127	
865	13	5	1152	
867	13	5	1160	
870	13	5	1176	
875	**13**	**5**	**1199**	
880	13	5	1223	
885	13	5	1247	(4.6 divisions per kc)
890	13	5	1270	
895	13	5	1294	
900	**13**	**5**	**1317**	
905	13	5	1341	
910	13	5	1364	
915	13	5	1387	
920	13	5	1410	(4.6 divisions per kc)
925	**13**	**5**	**1433**	
930	13	5	1457	
933	13	5	1473	
935	13	5	1480	
940	13	5	1503	
945	13	5	1526	
950	**13**	**5**	**1550**	
955	13	5	1574	
960	13	5	1597	
965	13	5	1621	(4.8 divisions per kc)
970	13	5	1645	
975	**13**	**5**	**1670**	
980	13	5	1694	
985	13	5	1718	
990	13	5	1744	
995	13	5	1770	
1000	**13**	**5**	**1795**	
1000	**13**	**5**	**1795**	(5.3 divisions per kc)
1005	13	5	1822	
1010	13	5	1850	
1015	13	5	1878	
1020	13	5	1905	
1025	13	5	1935	
1030	13	5	1966	
1035	13	5	1998	
1035	13	6	145	(4.9 div. per kc)
1040	13	6	171	
1045	13	6	196	
1050	**13**	**6**	**219**	
1055	13	6	244	
1060	13	6	270	(4.5 div per kc)
1065	13	6	293	
1067	13	6	300	
1070	13	6	315	
1075	13	6	338	
1080	13	6	363	
1085	13	6	385	(4.3 div. per kc)
1090	13	6	407	
1095	13	6	428	
1100	**13**	**6**	**451**	
1105	13	6	473	
1110	13	6	493	
1115	13	6	514	
1120	13	6	534	(4 div. per kc)
1125	13	6	556	
1130	13	6	576	
1133	13	6	589	
1135	13	6	596	
1140	13	6	615	(3.9 div. per kc)
1145	13	6	635	
1150	**13**	**6**	**656**	
1155	13	6	675	
1160	13	6	694	
1165	13	6	712	
1170	13	6	731	
1175	13	6	751	
1180	13	6	770	(3.5 div. per kc)
1185	13	6	788	
1190	13	6	806	
1195	13	6	823	
1200	**13**	**6**	**842**	
1205	15	6	860	
1210	13	6	878	
1215	13	6	895	
1220	13	6	918	
1225	13	6	930	
1230	13	6	948	
1235	13	6	966	(3.4 div. per kc)
1240	13	6	983	
1245	13	6	999	
1250	**13**	**6**	**1016**	
1267	13	6	1073	
1250	**13**	**6**	**1016**	(3.3 divisions per kc)
1255	13	6	1032	
1260	13	6	1050	
1265	13	6	1067	
1267	13	6	1073	
1270	13	6	1084	
1275	13	6	1100	
1280	13	6	1116	
1285	13	6	1132	(3.2 divisions per kc)
1290	13	6	1149	
1295	13	6	1166	
1300	**13**	**6**	**1182**	
1305	13	6	1198	
1310	13	6	1214	
1315	13	6	1230	
1320	13	6	1246	
1325	13	6	1262	
1330	13	6	1278	
1335	13	6	1294	
1340	13	6	1309	
1345	13	6	1325	
1350	**13**	**6**	**1341**	
1355	13	6	1358	(3.2 divisions per kc)
1360	13	6	1374	
1365	13	6	1389	
1370	13	6	1404	
1375	13	6	1419	
1380	13	6	1436	
1385	13	6	1452	
1390	13	6	1468	
1395	13	6	1484	
1400	**13**	**6**	**1499**	
1405	13	6	1514	
1410	13	6	1530	
1415	13	6	1547	
1420	13	6	1563	
1425	13	6	1580	
1430	13	6	1595	
1435	13	6	1611	(3.4 divisions per kc)
1440	13	6	1627	
1445	13	6	1644	
1450	**13**	**6**	**1661**	
1455	13	6	1678	
1460	13	6	1694	
1465	13	6	1710	
1467	**13**	**6**	**1715**	
1470	13	6	1727	
1475	13	6	1744	
1480	13	6	1763	
1485	13	6	1780	(3.5 div. per kc)
1490	13	6	1797	
1495	13	6	1813	
1500	**13**	**6**	**1832**	

Use nearest check point shown in heavy type.

TABLE 5-4. CALIBRATION OF OSCILLATOR 0-17/ART-13A WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

300 Kc to 400 Kc

Freq.	A	F	G
300	**13**	**2**	**350.8**
301	13	2	365.7
302	13	2	379.4
303	13	2	394.5
304	13	2	408.7
305	13	2	423.5
306	13	2	438.7
307	13	2	452.0
308	13	2	466.0
309	13	2	480.0
310	13	2	494.0
311	13	2	509.2
312	13	2	522.4
313	13	2	536.6
314	13	2	550.6
315	13	2	564.4
316	13	2	578.4
317	13	2	592.2
318	13	2	606.2
319	13	2	620.2
320	13	2	634.2
321	13	2	648.1
322	13	2	662.0
323	13	2	675.8
324	13	2	689.7
325	13	2	703.6
326	13	2	717.5
327	13	2	731.4
328	13	2	745.2
329	13	2	759.1
330	13	2	773.0
331	13	2	786.4
332	13	2	801.0
333	**13**	**2**	**815.0**
334	13	2	829.0
335	13	2	843.0
336	13	2	857.0
337	13	2	871.0
338	13	2	885.0
339	13	2	899.0
340	13	2	913.0
341	13	2	927.2
342	13	2	941.4
343	13	2	955.6
344	13	2	969.8
345	13	2	984.0
346	13	2	998.2
347	13	2	1012.4
348	13	2	1026.6
349	13	2	1040.8
350	**13**	**2**	**1055.0**
351	13	2	1069.1
352	13	2	1083.2
353	13	2	1097.3
354	13	2	1111.4
355	13	2	1125.5
356	13	2	1139.6
357	13	2	1153.7
358	13	2	1167.8
359	13	2	1181.9
360	13	2	1196.0
361	13	2	1210.1
362	13	2	1224.3
363	13	2	1238.4
364	13	2	1252.6
365	13	2	1266.7
366	13	2	1280.9
367	13	2	1295.0
368	13	2	1309.2
369	13	2	1323.3
370	13	2	1337.5
371	13	2	1351.5
372	13	2	1365.6
373	13	2	1379.6
374	13	2	1393.6
375	13	2	1407.6
376	13	2	1421.7
377	13	2	1435.7
378	13	2	1449.7
379	13	2	1463.7
380	13	2	1477.8
381	13	2	1492.0
382	13	2	1506.2
383	13	2	1520.3
384	13	2	1534.5
385	13	2	1548.7
386	13	2	1562.9
387	13	2	1577.1
388	13	2	1591.2
389	13	2	1605.4
390	13	2	1619.6
391	13	2	1634.1
392	13	2	1648.6
393	13	2	1663.2
394	13	2	1677.7
395	13	2	1692.2
396	13	2	1706.7
397	13	2	1721.2
398	13	2	1735.7
399	13	2	1750.3
400	**13**	**2**	**1764.8**

Use nearest check point shown in heavy type.

TABLE 5-4. CALIBRATION OF OSCILLATOR 0-17/ART-13A WHEN MCW-CFI 8Q-1 UNIT IS USED

200 Kc to 300 Kc

Freq.	A	F	G
200	**13**	**1**	**189.2**
201	13	1	212.0
202	13	1	234.8
203	13	1	256.8
204	13	1	278.0
205	13	1	299.8
206	13	1	321.3
207	13	1	342.8
208	13	1	363.6
209	13	1	384.3
210	13	1	405.0
211	13	1	425.3
212	13	1	445.6
213	13	1	466.5
214	13	1	486.7
215	13	1	508.1
216	13	1	527.5
217	13	1	548.0
218	13	1	568.0
219	13	1	588.0
220	13	1	608.0
221	13	1	628.1
222	13	1	648.2
223	13	1	668.2
224	13	1	688.3
225	13	1	708.4
226	13	1	728.5
227	13	1	748.6
228	13	1	768.6
229	13	1	788.7
230	13	1	808.8
231	13	1	829.2
232	13	1	849.5
233	13	1	869.9
234	13	1	890.2
235	13	1	910.6
236	13	1	931.0
237	13	1	951.3
238	13	1	971.7
239	13	1	992.0
240	13	1	1012.4
241	13	1	1032.8
242	13	1	1053.3
243	13	1	1073.7
244	13	1	1094.2
245	13	1	1114.6
246	13	1	1135.0
247	13	1	1155.5
248	13	1	1175.9
249	13	1	1196.4
250	**13**	**1**	**1216.8**
251	13	1	1237.1
252	13	1	1257.4
253	13	1	1277.8
254	13	1	1298.1
255	13	1	1318.4
256	13	1	1338.7
257	13	1	1359.0
258	13	1	1379.4
259	13	1	1399.7
260	13	1	1420.0
261	13	1	1440.0
262	13	1	1460.9
263	13	1	1481.4
264	13	1	1501.8
265	13	1	1522.2
266	13	1	1542.7
267	13	1	1563.1
268	13	1	1583.6
269	13	1	1604.0
270	13	1	1624.5
271	13	1	1645.6
272	13	1	1666.0
273	13	1	1686.5
274	13	1	1707.2
275	13	1	1728.8
276	13	1	1750.0
277	13	1	1771.0
278	13	1	1792.0
279	13	1	1814.0
280	13	1	1836.0
281	13	1	1858.0
282	13	1	1880.0
283	13	1	1902.2
284	13	1	1925.2
285	13	1	1948.5
285	13	2	118.8
286	13	2	135.7
287	13	2	152.2
288	13	2	168.2
289	13	2	184.2
290	13	2	200.2
291	13	2	215.5
292	13	2	231.0
293	13	2	246.8
294	13	2	261.8
295	13	2	276.5
296	13	2	291.4
297	13	2	306.5
298	13	2	321.5
299	13	2	336.2
300	**13**	**2**	**350.8**

Use nearest check point shown in heavy type.

TABLE 5-4. CALIBRATION OF OSCILLATOR 0-17/ART-13A WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

500 Kc to 600 Kc

Freq.	A	F	G
500	**13**	**3**	**971.8**
501	13	3	981.6
502	13	3	991.0
503	13	3	1001.1
504	13	3	1010.9
505	13	3	1020.6
506	13	3	1030.4
507	13	3	1040.2
508	13	3	1050.0
509	13	3	1059.7
510	13	3	1069.5
511	13	3	1079.2
512	13	3	1089.0
513	13	3	1098.8
514	13	3	1108.5
515	13	3	1118.2
516	13	3	1128.0
517	13	3	1137.7
518	13	3	1147.5
519	13	3	1157.3
520	13	3	1167.0
521	13	3	1176.8
522	13	3	1186.5
523	13	3	1196.2
524	13	3	1206.0
525	13	3	1215.7
526	13	3	1225.5
527	13	3	1235.2
528	13	3	1245.0
529	13	3	1254.7
530	13	3	1264.5
531	13	3	1274.2
532	13	3	1283.9
533	**13**	**3**	**1293.6**
534	13	3	1303.2
535	13	3	1312.9
536	13	3	1322.6
537	13	3	1332.3
538	13	3	1342.0
539	13	3	1351.7
540	13	3	1361.4
541	13	3	1371.1
542	13	3	1380.8
543	13	3	1390.4
544	13	3	1400.1
545	13	3	1409.8
546	13	3	1419.5
547	13	3	1429.2
548	13	3	1438.8
549	13	3	1448.5
550	13	3	1458.2
551	13	3	1467.9
552	13	3	1477.7
553	13	3	1487.4
554	13	3	1497.1
555	13	3	1506.9
556	13	3	1516.6
557	13	3	1526.3
558	13	3	1536.1
559	13	3	1545.9
560	13	3	1555.6
561	13	3	1565.4
562	13	3	1575.2
563	13	3	1585.1
564	13	3	1594.9
565	13	3	1604.7
566	13	3	1614.5
567	13	3	1624.3
568	13	3	1634.3
569	13	3	1644.0
570	13	3	1653.8
571	13	3	1663.8
572	13	3	1673.2
573	13	3	1682.0
574	13	3	1692.8
575	13	3	1703.0
576	13	3	1713.0
577	13	3	1723.0
578	13	3	1733.4
579	13	3	1743.4
580	13	3	1753.4
581	13	3	1763.4
582	13	3	1773.2
583	13	3	1783.2
584	13	3	1793.8
585	13	3	1804.0
586	13	3	1814.4
587	13	3	1824.8
588	13	3	1835.2
589	13	3	1845.9
590	13	3	1856.2
591	13	3	1866.4
592	13	3	1877.0
593	13	3	1887.5
594	13	3	1898.0
595	13	3	1909.0
596	13	3	1920.0
597	13	3	1931.0
598	13	3	1942.0
599	13	3	1953.0
600	**13**	**3**	**1964.0**

Use nearest check point shown in heavy type.

TABLE 5-4. CALIBRATION OF OSCILLATOR 0-17/ART-13A WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

400 Kc to 500 Kc

Freq.	A	F	G	*Freq.*	A	F	G	*Freq.*	A	F	G
400	**13**	**2**	**1764.8**	433	13	3	320.4	468	13	3	662.6
401	13	2	1779.0	434	13	3	330.4	469	13	3	672.2
402	13	2	1793.7	435	13	3	340.6				
403	13	2	1809.0	436	13	3	350.8	470	13	3	681.8
404	13	2	1824.0	437	13	3	360.8	471	13	3	691.4
405	13	2	1839.4	438	13	3	370.6	472	13	3	701.0
406	13	2	1854.4	439	13	3	380.4	473	13	3	710.5
407	13	2	1869.4					474	13	3	720.1
408	13	2	1885.0	440	13	3	390.4	475	13	3	729.7
409	13	2	1900.2	441	13	2	400.3	476	13	3	739.3
				442	13	3	410.1	477	13	3	748.9
410	13	2	1916.2	443	13	3	420.0	478	13	3	758.4
411	13	2	1932.2	444	13	3	429.8	479	13	3	768.0
412	13	2	1948.2	445	13	3	439.7				
413	13	2	1964.4	446	13	3	449.6	480	13	3	777.6
414	13	2	1980.3	447	13	3	459.4	481	13	3	787.3
415	13	2	1997.0	448	13	3	469.3	482	13	3	796.9
				449	13	3	479.1	483	13	3	806.6
415	13	3	127.2					484	13	3	816.2
416	13	3	138.6	450	13	3	489.0	485	13	3	825.9
417	13	3	150.2	451	13	3	498.7	486	13	3	835.6
418	13	3	161.3	452	13	3	508.4	487	13	3	845.2
419	13	3	172.2	453	13	3	518.0	488	13	3	854.9
				454	13	3	527.7	489	13	3	864.5
420	13	3	183.0	455	13	3	537.4				
421	13	3	193.8	456	13	3	547.1	490	13	3	874.2
422	13	3	205.0	457	13	3	556.8	491	13	3	884.0
423	13	3	215.6	458	13	3	566.4	492	13	3	893.7
424	13	3	226.6	459	13	3	576.1	493	13	3	903.5
425	13	3	237.2					494	13	3	913.2
426	13	3	247.7	460	13	3	585.8	495	13	3	923.3
427	13	3	258.2	461	13	3	595.4	496	13	3	932.8
428	13	3	268.4	462	13	3	605.0	497	13	3	942.5
429	13	3	277.7	463	13	3	614.6	498	13	3	952.3
				464	13	3	624.2	499	13	3	962.0
430	13	3	289.2	465	13	3	633.8				
431	13	3	299.6	466	13	3	643.4	**500**	**13**	**3**	**971.8**
432	13	3	310.2	**467**	**13**	**3**	**653.0**				

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED

2000 Kc to 3000 Kc

Freq.	A	B	
2000	1	**100**	
2005	1	119	
2010	1	138	(3.6 divisions per kc)
2015	1	156	
2020	1	174	
2025	1	193	
2030	1	211	
2035	1	230	
2040	1	248	
2045	1	267	
2050	1	285	
2055	1	303	
2060	1	322	
2065	1	340	
2070	1	359	(3.6 divisions per kc)
2075	1	377	
2080	1	396	
2085	1	415	
2090	1	433	
2095	1	452	
2100	**1**	**470**	
2105	1	489	
2110	1	508	
2115	1	526	
2120	1	545	
2125	1	564	
2130	1	582	(3.6 div. per kc)
2133	**1**	**595**	
2135	1	601	
2140	1	620	
2145	1	638	
2150	1	657	
2155	1	675	
2160	1	693	
2165	1	713	
2170	1	732	
2175	1	750	
2180	1	769	
2185	1	787	
2190	1	806	
2195	1	824	(3.6 divisions per kc)
2200	**1**	**843**	
2205	1	862	
2210	1	880	
2215	1	898	
2220	1	917	
2225	1	935	
2230	1	954	
2235	1	972	
2240	1	991	
2245	1	1009	
2250	1	1027	
2250	1	1027	
2255	1	1046	(3.6 div. per kc)
2260	1	1064	
2265	1	1083	
2267	**1**	**1089**	
2270	1	1101	
2275	1	1119	
2280	1	1138	
2285	1	1156	
2290	1	1174	
2295	1	1193	
2300	**1**	**1211**	
2305	1	1229	(3.6 divisions per kc)
2310	1	1247	
2315	1	1265	
2320	1	1284	
2325	1	1302	
2330	1	1321	
2335	1	1339	
2340	1	1357	
2345	1	1376	
2350	1	1394	
2355	1	1412	
2360	1	1430	
2365	1	1449	(3.6 div. per kc)
2370	1	1468	
2375	1	1486	
2380	1	1504	
2385	1	1523	
2390	1	1541	
2395	1	1560	
2400	**1**	**1578**	
2400	**2**	**060**	
2405	2	076	
2410	2	091	
2415	2	106	(3 div. per kc)
2420	2	121	
2425	2	137	
2430	2	152	
2435	2	168	
2440	2	183	
2445	2	198	
2450	2	213	
2455	2	228	
2460	2	243	
2465	2	259	(3 divisions per kc)
2470	2	274	
2475	2	290	
2480	2	305	
2485	2	320	
2490	2	335	
2495	2	351	
2500	**2**	**366**	
2500	**2**	**366**	(3 div. per kc)
2505	2	381	
2510	2	397	
2515	2	412	
2520	2	427	
2525	2	443	
2530	2	458	(3 divisions per kc)
2533	**2**	**469**	
2535	2	474	
2540	2	489	
2545	2	505	
2550	2	520	
2555	2	535	
2560	2	551	
2565	2	567	
2570	2	590	
2575	2	597	
2580	2	613	
2585	2	628	(3 divisions per kc)
2590	2	644	
2595	2	659	
2600	**2**	**674**	
2605	2	690	
2610	2	705	
2615	2	721	
2620	2	736	
2625	2	756	
2630	2	767	
2635	2	782	
2640	2	797	
2645	2	813	(3 divisions per kc)
2650	2	828	
2655	2	844	
2660	2	859	
2665	2	874	
2667	**2**	**879**	
2670	2	890	
2675	2	905	
2680	2	920	
2685	2	935	
2690	2	951	
2695	2	966	
2700	**2**	**981**	
2705	2	996	(3 divisions per kc)
2710	2	1012	
2715	2	1027	
2720	2	1042	
2725	2	1057	
2730	2	1073	
2735	2	1088	
2740	2	1103	
2745	2	1118	
2750	2	1133	
2750	2	1133	
2755	2	1148	
2760	2	1163	
2765	2	1179	
2770	2	1194	
2775	2	1209	
2780	2	1224	
2785	2	1239	(3 divisions per kc)
2790	2	1254	
2795	2	1270	
2800	**2**	**1285**	
2805	2	1300	
2810	2	1315	
2815	2	1330	
2820	2	1345	
2825	2	1361	
2830	2	1376	
2835	2	1391	
2840	2	1406	
2845	2	1421	
2850	2	1436	
2855	2	1452	
2860	2	1469	
2865	2	1482	
2870	2	1498	(3 divisions per kc)
2875	2	1513	
2880	2	1528	
2885	2	1544	
2890	2	1559	
2895	2	1574	
2900	**2**	**1590**	
2905	2	1605	
2910	2	1621	
2915	2	1636	
2920	2	1653	
2925	2	1668	
2930	2	1683	(3 divisions per kc)
2933	**2**	**1694**	
2935	2	1699	
2940	2	1715	
2945	2	1731	
2950	2	1749	
2955	2	1763	
2960	2	1779	
2965	2	1795	
2970	2	1811	
2975	2	1827	(3 div. per kc)
2980	2	1843	
2985	2	1860	
2990	2	1877	
2995	2	1893	
3000	**2**	**1910**	

Use nearest check point shown in heavy type.

TABLE 5-5

CALIBRATION OF RADIO TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED

2000 Kc to 18,100 Kc

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

4000 Kc to 5000 Kc

Freq.	A	B	
4000	**5**	**100**	
4005	5	109	
4010	5	119	
4015	5	128	
4020	5	138	
4025	5	147	
4030	5	156	
4035	5	165	(1.8 divisions per kc)
4040	5	174	
4045	5	183	
4050	5	193	
4055	5	202	
4060	5	211	
4065	5	220	
4070	5	230	
4075	5	239	
4080	5	248	
4085	5	257	
4090	5	267	
4095	5	276	
4100	5	285	
4105	5	293	
4110	5	303	
4115	5	312	
4120	5	322	
4125	5	331	
4130	5	340	
4135	5	349	
4140	5	359	
4145	5	368	
4150	5	377	
4155	5	386	(1.8 div. per kc)
4160	5	396	
4165	5	405	
4170	5	415	
4175	5	424	
4180	5	433	
4185	5	442	
4190	5	452	
4195	5	461	
4200	**5**	**470**	
4205	5	479	
4210	5	489	
4215	5	498	
4220	5	508	
4225	5	517	
4230	5	526	
4235	5	535	(1.8 div. per kc)
4240	5	545	
4245	5	554	
4250	5	564	
4267	**5**	**595**	

Freq.	A	B	
4250	5	564	
4255	5	573	
4260	5	582	
4265	5	591	
4267	**5**	**595**	
4270	5	601	(1.8 divisions per kc)
4275	5	610	
4280	5	620	
4285	5	629	
4290	5	638	
4295	5	647	
4300	5	657	
4305	5	666	
4310	5	675	
4315	5	684	
4320	5	693	
4325	5	702	
4330	5	713	
4335	5	722	
4340	5	732	(1.8 divisions per kc)
4345	5	741	
4350	5	750	
4355	5	759	
4360	5	769	
4365	5	778	
4370	5	787	
4375	5	796	
4380	5	806	
4385	5	815	
4390	5	824	
4395	5	833	
4400	**5**	**843**	
4405	5	852	
4410	5	862	
4415	5	871	
4420	5	880	
4425	5	889	
4430	5	898	
4435	5	907	
4440	5	917	
4445	5	926	
4450	5	935	
4455	5	944	
4460	5	954	
4465	5	963	
4470	5	972	(1.8 divisions per kc)
4475	5	981	
4480	5	991	
4485	5	1000	
4490	5	1009	
4495	5	1018	
4500	5	1027	
4533	**5**	**1089**	

Freq.	A	B	
4500	5	1027	
4505	5	1036	
4510	5	1046	
4515	5	1055	
4520	5	1064	(1.8 divisions per kc)
4525	5	1073	
4530	5	1083	
4533	**5**	**1089**	
4535	5	1092	
4540	5	1101	
4545	5	1110	
4550	5	1119	
4555	5	1128	
4560	5	1138	
4565	5	1147	
4570	5	1156	
4575	5	1165	
4580	5	1174	
4585	5	1183	
4590	5	1193	
4595	5	1202	
4600	**5**	**1211**	
4605	5	1220	
4610	5	1229	
4615	5	1238	
4620	5	1247	(1.8 divisions per kc)
4625	5	1256	
4630	5	1266	
4635	5	1275	
4640	5	1284	
4645	5	1293	
4650	5	1302	
4655	5	1311	
4660	5	1321	
4665	5	1330	
4670	5	1339	
4675	5	1348	
4680	5	1357	
4685	5	1366	
4690	5	1376	
4695	5	1385	
4700	5	1394	
4705	5	1403	
4710	5	1412	
4715	5	1421	
4720	5	1430	(1.8 div. per kc)
4725	5	1439	
4730	5	1449	
4735	5	1458	
4740	5	1468	
4745	5	1477	
4750	5	1486	
4800	**5**	**1578**	

Freq.	A	B	
4750	5	1486	
4755	5	1495	
4760	5	1504	(1.8 divisions per kc)
4765	5	1513	
4770	4	1523	
4775	5	1532	
4780	5	1541	
4785	5	1550	
4790	5	1560	
4795	5	1569	
4800	**5**	**1578**	
4800	**6**	**060**	
4805	6	068	
4810	6	076	
4815	6	084	
4820	6	091	
4825	6	099	
4830	6	106	
4835	6	114	(1.5 divisions per kc)
4840	6	121	
4845	6	129	
4850	6	137	
4855	6	145	
4860	6	152	
4865	6	160	
4870	6	168	
4875	6	176	
4880	6	183	
4885	6	191	
4890	6	198	
4895	6	206	
4900	6	213	
4905	6	221	
4910	6	228	
4915	6	236	
4920	6	243	
4925	6	251	
4930	6	259	
4935	6	267	(1.5 divisions per kc)
4940	6	274	
4945	6	282	
4950	6	290	
4955	6	298	
4960	6	305	
4965	6	313	
4970	6	320	
4975	6	328	
4980	6	335	
4985	6	343	
4990	6	351	
4995	6	359	
5000	**6**	**366**	

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

3000 Kc to 4000 Kc

Freq.	A	B		*Freq.*	A	B		*Freq.*	A	B		*Freq.*	A	B	
3000	**3**	**100**		3250	3	719		3500	3	1333		**3750**	**4**	**366**	(2 div. per kc)
3005	3	113		3255	3	731		3505	3	1345		3755	4	376	
3010	3	126		3260	3	743		3510	3	1357		3760	4	386	
3015	3	138		3265	3	755		3515	3	1369		3765	4	397	
3020	3	150	(2.5 divisions per kc)	3270	3	769		3520	3	1381		3770	4	407	
3025	3	162		3275	3	781		3525	3	1394		3775	4	417	
3030	3	174		3280	3	793		3530	3	1406					
3035	3	186		3285	3	806	(2.5 divisions per kc)	3535	3	1418	(2.5 divisions per kc)	3780	4	427	
3040	3	198		3290	3	818		3540	3	1430		3785	4	437	
3045	3	211		3295	3	830		3545	3	1443		3790	4	447	
3050	3	223		**3300**	**3**	**843**		3550	3	1456		3795	4	458	
3055	3	235		3305	3	855		3555	3	1468		**3800**	**4**	**469**	(2 divisions per kc)
3060	3	248		3310	3	867		3560	3	1480		3805	4	479	
3065	3	260		3315	3	880		3565	3	1492		3810	4	489	
3070	3	272		3320	3	892		3570	3	1504		3815	4	499	
3075	3	285		3325	3	904		3575	3	1516		3820	4	509	
				3330	3	917		3580	3	1528		3825	4	520	
3080	3	297		3335	3	929		3585	3	1541		3830	4	530	
3085	3	309		3340	3	941		3590	3	1553		3835	4	540	
3090	3	322		3345	3	954		3595	3	1565		3840	4	551	
3095	3	334		3350	3	966		**3600**	**3**	**1578**		3845	4	561	
3100	3	346										3850	4	571	
3105	3	359		3355	3	978		**3600**	**4**	**060**					
3110	3	371		3360	3	991		3605	4	070		3855	4	582	
3115	3	383	(2.5 divisions per kc)	3365	3	1003		3610	4	080		3860	4	592	
3120	3	396		3370	3	1015		3615	4	091		3865	4	602	
3125	3	408		3375	3	1027	(2.5 div. per kc)	3620	4	101		3870	4	613	
3130	3	420		3380	3	1039		3625	4	116	(2 div. per kc)	3875	4	623	
3135	3	433		3385	3	1051		3630	4	121		3880	4	633	
3140	3	445		3390	3	1064		3635	4	131		3885	4	644	
3145	3	457		3395	3	1076		3640	4	141		3890	4	654	(2 divisions per kc)
3150	**3**	**470**		**3400**	**3**	**1088**		3645	4	152		3895	4	664	
3155	3	483		3405	3	1101		3650	4	162		**3900**	**4**	**674**	
3160	3	496		3410	3	1113		3655	4	172		3905	4	684	
3165	3	508		3415	3	1125		3660	4	183		3910	4	694	
3170	3	520		3420	3	1138		3665	4	192		3915	4	705	
3175	3	532						3670	4	203		3920	4	715	
				3425	3	1150		3675	4	213		3925	4	725	
3180	3	545		3430	3	1162						3930	4	736	
3185	3	557		3435	3	1174		3680	4	223		3935	4	746	
3190	3	569		3440	3	1186		3685	4	233		3940	4	756	
3195	3	582		3445	3	1198		3690	4	243		3945	4	767	
3200	**3**	**594**	(2.5 divisions per kc)	**3450**	**3**	**1211**	(2.5 div. per kc)	3695	4	253		3950	4	777	
3205	3	606		3455	3	1223		3700	4	264	(2 divisions per kc)				
3210	3	620		3460	3	1235		3705	4	275		3955	4	787	
3215	3	632		3465	3	1247		3710	4	285		3960	4	797	
3220	3	644		3470	3	1259		3715	4	295		3965	4	807	
3225	3	657		3475	3	1271		3720	4	305		3970	4	817	(2 div. per kc)
3230	3	669		3480	3	1284		3725	4	315		3975	4	828	
3235	3	681		3485	3	1296		3730	4	325		3980	4	838	
3240	3	693		3490	3	1308		3735	4	335		3985	4	848	
3245	3	706		3495	3	1321		3740	4	345		3990	4	859	
3250	3	719		3500	3	1333		3745	4	355		3995	4	869	
								3750	**4**	**366**		**4000**	**4**	**879**	

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

6000 Kc to 7000 Kc

Freq.	A	B	Freq.	A	B	Freq.	A	B	Freq.	A	B
6000	**7**	**100**	6250	7	408	6500	7	719	6750	7	1027
6005	7	106	6255	7	415	6505	7	725	6755	7	1033
6010	7	112	6260	7	421	6510	7	732	6760	7	1039
6015	7	119	6265	7	427	6515	7	738	6765	7	1046
6020	7	125	6270	7	433	6520	7	744	6770	7	1052
6025	7	131	6275	7	439	6525	7	750	6775	7	1058
6030	7	138	6280	7	445	6530	7	756	6780	7	1064
6035	7	144	6285	7	452	6535	7	762	6785	7	1070
6040	7	150	6290	7	458	6540	7	769	6790	7	1076
6045	7	156	6295	7	464	6545	7	775 (1.2 divisions per kc)	6795	7	1083
6050	7	162	**6300**	**7**	**470** (1.2 divisions per kc)	6550	7	781	**6800**	**7**	**1089** (1.2 divisions per kc)
6055	7	168	6305	7	476	6555	7	787	6805	7	1095
6060	7	174	6310	7	482	6560	7	793	6810	7	1101
6065	7	180	6315	7	489	6565	7	799	6815	7	1107
6070	7	186	6320	7	495	6570	7	806	6820	7	1113
6075	7	193 (1.2 divisions per kc)	6325	7	501	6575	7	812	6825	7	1119
6080	7	199	6330	7	508	6580	7	818	6830	7	1125
6085	7	205	6335	7	514	6585	7	824	6835	7	1131
6090	7	211	6340	7	520	6590	7	830	6840	7	1138
6095	7	217	6345	7	526	6595	7	836	6845	7	1144
6100	7	223	6350	7	532	**6600**	**7**	**843**	6850	7	1150
6105	7	230				6605	7	849			
6110	7	236	6355	7	538	6610	7	855	6855	7	1156
6115	7	242	6360	7	545	6615	7	862	6860	7	1162
6120	7	248	6365	7	551	6620	7	868	6865	7	1168
6125	7	254	6370	7	557	6625	7	874	6870	7	1174
6130	7	260	6375	7	564	6630	7	880	6875	7	1180
6135	7	267	6380	7	570	6635	7	886	6880	7	1186
6140	7	273	6385	7	576	6640	7	892	6885	7	1193
6145	7	279	6390	7	582	6645	7	898	6890	7	1199
6150	7	285	6395	7	588	6650	7	904	6895	7	1205 (1.2 divisions per kc)
			6400	**7**	**595**	6655	7	910	**6900**	**7**	**1211**
6155	7	291	6405	7	601	6660	7	917	6905	7	1217
6160	7	297	6410	7	607	6665	7	923 (1.2 divisions per kc)	6910	7	1223
1665	7	303	6415	7	613	6670	7	929	6915	7	1229
6170	7	309	6420	7	620	6675	7	935	6920	7	1235
6175	7	315	6425	7	626 (1.2 divisions per kc)	6680	7	941	6925	7	1241
6180	7	322	6430	7	632	6685	7	947	6930	7	1247
6185	7	328	6435	7	638	6690	7	954	6935	7	1253
6190	7	334	6440	7	644	6695	7	960	6940	7	1259
6195	7	340	6445	7	650	6700	7	966	6945	7	1266
6200	7	346	6450	7	657				6950	7	1272
6205	7	352 (1.2 divisions per kc)	6455	7	663	6705	7	972	6955	7	1278
6210	7	359	6460	7	669	6710	7	978	6960	7	1284
6215	7	365	6465	7	675	6715	7	984	6965	7	1290
6220	7	371	6470	7	681	6720	7	991	6970	7	1296
6225	7	377	6475	7	687	6725	7	997	6975	7	1302
6230	7	383	6480	7	693	6730	7	1003 (1.2 divisions per kc)	6980	7	1308
6235	7	389	6485	7	699	6735	7	1009	6985	7	1314
6240	7	396	6490	7	705	6740	7	1015	6990	7	1321
6245	7	402	6495	7	713	6745	7	1021	6995	7	1327
6250	7	408	6500	7	719	6750	7	1027	7000	7	1333
6300	**7**	**470**				**6800**	**7**	**1089**			

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

5000 Kc to 6000 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B	*Freq.*	A	B
5000	**6**	**366**	5250	6	752	5500	6	1133	5750	6	1513
5005	6	374	5255	6	760	5505	6	1141	5755	6	1521
5010	6	381	5260	6	767	5510	6	1148	5760	6	1528
5015	6	389 (1.5 divisions per kc)	5265	6	775	5515	6	1156	5765	6	1536
5020	6	397	5270	6	782	5520	6	1163	5770	6	1544
5025	6	405	5275	6	790	5525	6	1171	5775	6	1552
5030	6	412	5280	6	797	5530	6	1179	5780	6	1559
			5285	6	805	5535	6	1187	5785	6	1567
5035	6	420	5290	6	813	5540	6	1194	5790	6	1574 (1.5 divisions per kc)
5040	6	427	5295	6	821	5545	6	1202	5795	6	1582
5045	6	435	5300	6	828	5550	6	1209	**5800**	**6**	**1590**
5050	6	443	5305	6	836	5555	6	1217	5805	6	1598
5055	6	451	5310	6	844 (1.5 divisions per kc)	5560	6	1224	5810	6	1605
5060	6	458	5315	6	852	5565	6	1232	5815	6	1613
5065	6	466	5320	6	859	5570	6	1239	5820	6	1621
5067	**6**	**469**	5325	6	867	5575	6	1247	5825	6	1629
5070	6	474	5330	6	874	5580	6	1254	5830	6	1636
5075	6	482	**5333**	**6**	**879**	5585	6	1262			
5080	6	489 (1.5 divisions per kc)	5335	6	882	5590	6	1270	5835	6	1644
5085	6	497	5340	6	890	5595	6	1278	5840	6	1653
5090	6	505	5345	6	898	**5600**	**6**	**1285** (1.5 divisions per kc)	5845	6	1661
5095	6	513	5350	6	905	5605	6	1293	5850	6	1668
5100	6	520	5355	6	913	5610	6	1300	5855	6	1676
5105	6	528	5360	6	920	5615	6	1308	5860	6	1683
5110	6	535	5365	6	928	5620	6	1315	5865	6	1691
5115	6	543				5625	6	1323	**5867**	**6**	**1694**
5120	6	551	5370	6	935	5630	6	1330	5870	6	1699
5125	6	559	5375	6	943	5635	6	1338	5875	6	1707
5130	6	567	5380	6	951	5640	6	1345	5880	6	1715 (1.6 divisions per kc)
			5385	6	959	5645	6	1353	5885	6	1723
5135	6	575	5390	6	966	5650	6	1361	5890	6	1731
5140	6	582	5395	6	974	5655	6	1369	5895	6	1739
5145	6	590	**5400**	**6**	**981**	5660	6	1376	5900	6	1747
5150	6	597	5405	6	989	5665	6	1384	5905	6	1755
5155	6	605	5410	6	996	5690	6	1391	5910	6	1763
5160	6	613	5415	6	1004	5675	6	1399	5915	6	1771
5165	6	621	5420	6	1012	5680	6	1406	5920	6	1779
5170	6	628	5425	6	1020	5685	6	1414	5925	6	1787
5175	6	636	5430	6	1027	5690	6	1421	5930	6	1795
5180	6	644	5435	6	1035 (1.5 divisions per kc)	5695	6	1429			
5185	6	652	5440	6	1042	5700	6	1436	5935	6	1803
5190	6	659 (1.5 divisions per kc)	5445	6	1050				5940	6	1811
5195	6	667	5450	6	1057	5705	6	1444	5945	6	1819
5200	**6**	**674**	5455	6	1065	5710	6	1452	5950	6	1827
5205	6	682	5460	6	1073	5715	6	1460	5955	6	1835
5210	6	690	5465	6	1081	5720	6	1467	5960	6	1844
5215	6	698	5470	6	1088	5725	6	1475	5965	6	1852
5220	6	705	5475	6	1096	5730	6	1482 (1.5 divisions per kc)	5970	6	1860 (1.6 divisions per kc)
5225	6	713	5480	6	1103	5735	6	1490	5975	6	1868
5230	6	721	5485	6	1111	5740	6	1498	5980	6	1877
5235	6	729	5490	6	1118	5745	6	1506	5985	6	1885
5240	6	736	5495	6	1126	5750	6	1513	5990	6	1893
5245	6	744	5500	6	1133	**5800**	**6**	**1590**	5995	6	1901
5250	6	752							**6000**	**6**	**1910**

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

8000 Kc to 10,000 Kc

Freq.	A	B	
8000	**8**	**879**	
8010	8	890	(1 div. per kc)
8020	8	900	
8030	8	910	
8040	8	920	
8050	8	930	
8060	8	940	
8070	9	951	
8080	8	961	
8090	8	971	
8100	**8**	**981**	
8110	8	991	
8120	8	1001	
8130	8	1012	(1 division per kc)
8140	8	1022	
8150	8	1032	
8160	8	1042	
8170	8	1052	
8180	8	1062	
8190	8	1073	
8200	8	1083	
8210	8	1093	
8220	8	1103	
8230	8	1113	
8240	8	1123	
8250	8	1133	
8260	8	1143	
8270	8	1153	
8280	8	1163	
8290	8	1173	
8300	8	1183	
8310	8	1194	
8320	8	1204	
8330	8	1214	
8340	8	1224	
8350	8	1234	(1 division per kc)
8360	8	1244	
8370	8	1254	
8380	8	1264	
8390	8	1274	
8400	**8**	**1285**	
8410	8	1295	
8420	8	1305	
8430	8	1315	
8440	8	1325	
8450	8	1335	
8460	8	1345	
8470	8	1355	
8480	8	1365	
8490	8	1376	
8500	8	1386	
8400	**8**	**1285**	
8500	8	1386	(1 division per kc)
8510	8	1396	
8520	8	1406	
8530	8	1416	
8540	8	1426	
8550	8	1436	
8560	8	1446	
8570	8	1456	
8580	8	1467	
8590	8	1477	
8600	8	1487	
8610	8	1498	
8620	8	1508	
8630	8	1518	(1 division per kc)
8640	8	1528	
8650	8	1538	
8660	8	1548	
8670	8	1559	
8680	8	1569	
8690	8	1579	
8700	**8**	**1590**	
8710	8	1600	
8720	8	1610	
8730	8	1621	
8740	8	1631	
8750	8	1641	
8760	8	1653	
8770	8	1663	
8780	8	1673	
8790	8	1683	
8800	**8**	**1694**	(1 division per kc)
8810	8	1704	
8820	8	1715	
8830	8	1725	
8840	8	1736	
8850	8	1747	
8860	8	1757	
8870	8	1768	
8880	8	1779	
8890	8	1789	
8900	8	1799	
8910	8	1811	
8920	8	1821	(1 division per kc)
8930	8	1832	
8940	8	1843	
8950	8	1854	
8960	8	1865	
8970	8	1877	
8980	8	1888	
8990	8	1899	
9000	**8**	**1910**	
9000	**9**	**100**	
9010	9	108	
9020	9	116	
9030	9	124	
9040	9	132	
9050	9	140	
9060	9	148	
9070	9	156	
9080	9	165	
9090	9	174	(.08 divisions per kc)
9100	9	182	
9110	9	190	
9120	9	198	
9130	9	206	
9140	9	214	
9150	9	222	
9160	9	230	
9170	9	239	
9180	9	248	
9190	9	256	
9200	9	264	
9210	9	272	
9220	9	280	
9230	9	288	
9240	9	296	
6250	9	304	
9260	9	313	
9270	9	322	
9280	9	330	
9290	9	338	
9300	9	346	
9310	9	354	
9320	9	362	
9330	9	370	
9340	9	378	
9350	9	387	(.08 divisions per kc)
9360	9	396	
9370	9	404	
9380	9	412	
9390	9	420	
9400	9	428	
9410	9	436	
9420	9	444	
9430	9	452	
9440	9	461	
9450	**9**	**470**	
9460	9	478	
9470	9	486	
9480	9	494	
9490	9	502	
9500	9	510	
9450	**9**	**470**	
9500	9	510	
9510	9	518	
9520	9	527	
9530	9	536	
9540	9	545	
9550	9	553	
9560	9	561	
9570	9	570	
9580	9	578	(.08 divisions per kc)
9590	9	586	
9600	**9**	**595**	
9610	9	601	
9620	9	610	
9630	9	620	
9640	9	628	
9650	9	636	
9660	9	644	
9670	9	652	
9680	9	660	
9690	9	668	
9700	9	676	
9710	9	684	
9720	9	693	
9730	9	701	
9740	9	709	
9750	9	717	
9760	9	725	
9770	9	733	
9780	9	742	
9790	9	751	
9800	9	760	
9810	9	769	
9820	9	777	
8930	9	785	
9840	9	793	
9850	9	801	(.08 divisions per kc)
9860	9	809	
9870	9	817	
9880	9	825	
9890	9	834	
9900	**9**	**843**	
9910	**9**	**851**	
9920	9	859	
9930	9	867	
9940	9	875	
9950	9	883	
9960	9	891	
9970	9	899	
9980	9	908	
9990	9	917	
10000	9	925	

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

7000 Kc to 8000 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B	*Freq.*	A	B
6900	**7**	**1211**	**7200**	**8**	**060**	**7500**	**8**	**366**	7750	8	623
7000	7	1333	7250	8	111	7505	8	371	7755	8	628
7005	7	1339	7255	8	116	7510	8	376 (1 division per kc)	7760	8	633
7010	7	1345 (1.2 div. per kc)	7260	8	121	7515	8	381	7765	8	638
7015	7	1351	7265	8	126	7520	8	386	7770	8	644
7020	7	1357	7270	8	131	7525	8	391	7775	8	649
7025	7	1363	7275	8	137	7530	8	397	7780	8	654
7030	7	1369	7280	8	142	7535	8	402	7785	8	659
7035	7	1376	7285	8	147 (1 division per kc)	7540	8	407	7790	8	664
7040	7	1382	7290	8	152	7545	8	412	7795	8	669
7045	7	1388	7295	8	157	7550	8	417	**7800**	**8**	**674**
7050	7	1394	7300	8	162				7805	8	679
			7305	8	168	7555	8	422	7810	8	684
7055	7	1400	7310	8	173	7560	8	427	7815	8	690 (1 division per kc)
7060	7	1406	7315	8	178	7565	8	432	7820	8	695
7065	7	1412	7320	8	183	7570	8	437	7825	8	700
7070	7	1418	7325	8	188	7575	8	443	7830	8	705
7075	7	1424	7330	8	193	7580	8	448	7835	8	710
7080	7	1430	7335	8	198	7585	8	453	7840	8	715
7085	7	1436	7340	8	203	7590	8	458	7845	8	721
7090	7	1442	7345	8	208	7595	8	463	7850	8	726
7095	7	1449	7350	8	213	**7600**	**8**	**469**	7855	8	731
7100	7	1455				7605	8	474	7860	8	736
7105	7	1461	7355	8	218	7610	8	479	7865	8	741
7110	7	1468 (1.2 divisions per kc)	7360	8	223	7615	8	484 (1 division per kc)	7870	8	746
7115	7	1474	7365	8	228	7620	8	489	7875	8	752
7120	7	1480	7370	8	233	7625	8	494	7880	8	757
7125	7	1486	7375	8	238	7630	8	499	7885	8	762
7130	7	1492	7380	8	243	7635	8	505	7890	8	767
7135	7	1498	7385	8	248	7640	8	510	7895	8	772
7140	7	1504	7390	8	253	7645	8	515	7900	8	777
7145	7	1510	7395	8	259	7650	8	520			
7150	7	1516	7400	8	264	7655	8	525	7905	8	782
7155	7	1523	7405	8	269	7660	8	530	7910	8	787
7160	7	1529	7410	8	274	7665	8	535	7915	8	792
7165	7	1535	7415	8	279 (1 division per kc)	7670	8	540	7920	8	790
7170	7	1541	7420	8	284	7675	8	545	7925	8	802
7175	7	1547	7425	8	290	7680	8	551	7930	8	807
7180	7	1553	7430	8	295	7685	8	556	7935	8	813
7185	7	1560	7435	8	300	7690	8	561	7940	8	818 (1 division per kc)
7190	7	1566	7440	8	305	7695	8	567	7945	8	823
7195	7	1572	7445	8	310	7700	8	572	7950	8	828
7200	**7**	**1578**	7450	8	315				7955	8	833
			7455	8	320	7705	8	577	7960	8	838
7200	**8**	**060**	7460	8	325	7710	8	582	7965	8	844
7205	8	065	7465	8	330	7715	8	587 (1 division per kc)	7970	8	849
7210	8	070	7470	8	335	7720	8	592	7975	8	854
7215	8	076 (1 div. per kc)	7475	8	340	7725	8	597	7980	8	859
7220	8	081	7480	8	345	7730	8	602	7985	8	864
7225	8	086	7485	8	351	7735	8	607	7990	8	869
7230	8	091	7490	8	356	7740	8	613	7995	8	874
7235	8	096	7495	8	361	7745	8	618	**8000**	**8**	**879**
7240	8	101	**7500**	**8**	**366**	7750	8	623			
7245	8	106				**7800**	**8**	**674**			
7250	8	111									

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

12,000 Kc to 14,000 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B	*Freq.*	A	B
12000	**11**	**100**	12500	11	408	13000	11	719	13500	11	1027
12010	11	106	12510	11	415	13010	11	725	13510	11	1033
12020	11	112	12520	11	421	13020	11	732	13520	11	1039
12030	11	119	12530	11	427	13030	11	738	13530	11	1046
12040	11	125	12540	11	433	13040	11	744	13540	11	1052
12050	11	131	12550	11	439	13050	11	750 (0.6 divisions per kc)	13550	11	1058
12060	11	138	12560	11	445	13060	11	756	13560	11	1064
12070	11	144	12570	11	452 (0.6 divisions per kc)	13070	11	762	13570	11	1070 (0.6 divisions per kc)
12080	11	150	12580	11	458	13080	11	769	13580	11	1076
12090	11	156	12590	11	464	13090	11	775	13590	11	1083
12100	11	162	**12600**	**11**	**470**	13100	11	781	**13600**	**11**	**1089**
12110	11	168 (0.6 divisions per kc)	12610	11	476	13110	11	787	13610	11	1095
12120	11	174	12620	11	482	13120	11	793	13620	11	1101
12130	11	180	12630	11	489	13130	11	799	13630	11	1107
12140	11	187	12640	11	495	13140	11	806	13640	11	1113
12150	11	193	12650	11	501	13150	11	812	13650	11	1119
12160	11	199	12660	11	508	13160	11	818	13660	11	1125
12170	11	205	12670	11	514	13170	11	824	13670	11	1131
12180	11	211	12680	11	520	13180	11	830	13680	11	1138
12190	11	217	12690	11	526	13190	11	836	13690	11	1144
12200	11	223	12700	11	532	**13200**	**11**	**843**	13700	11	1150
12210	11	230				13210	11	849			
12220	11	236	12710	11	538	13220	11	855	13710	11	1156
12230	11	242	12720	11	545	13230	11	862	13720	11	1162
12240	11	248	12730	11	551	13240	11	868	13730	11	1168
12250	11	254	12740	11	557	13250	11	874	13740	11	1174
12260	11	260	12750	11	564	13260	11	880	13750	11	1180 (0.6 divisions per kc)
12270	11	267	12760	11	570	13270	11	886	13760	11	1186
12280	11	273	12770	11	576	13280	11	892 (0.6 divisions per kc)	13770	11	1193
12290	11	279	12780	11	582	13290	11	898	13780	11	1199
			12790	11	590	13300	11	904	13790	11	1205
12300	11	285	**12800**	**11**	**595**	13310	11	910	**13800**	**11**	**1211**
12310	11	291	12810	11	601	13320	11	917	13810	11	1217
12320	11	297	12820	11	607 (0.6 divisions per kc)	13330	11	923	13820	11	1223
12330	11	303	12830	11	613	13340	11	929	13830	11	1229
12340	11	309	12840	11	620	13350	11	935	13840	11	1235
12350	11	315	12850	11	626	13360	11	941	13850	11	1241
12360	11	322	12860	11	632	13370	11	947	13860	11	1247
12370	11	328	12870	11	638	13380	11	954	13870	11	1253
12380	11	334 (0.6 divisions per kc)	12880	11	644	13390	11	960	13880	11	1259
12390	11	340	12890	11	650	13400	11	966	13890	11	1266
12400	11	346	12900	11	657				13900	11	1272
12410	11	352	12910	11	663	13410	11	972	13910	11	1278 (0.6 div. per kc)
12420	11	359	12920	11	669	13420	11	980	13920	11	1284
12430	11	365	12930	11	675	13430	11	986 (0.6 divisions per kc)	13930	11	1290
12440	11	371	12940	11	681	13440	11	991	13940	11	1296
12450	11	377	12950	11	687	13450	11	997	13950	11	1302
12460	11	383	12960	11	693	13460	11	1003	13960	11	1308
12470	11	389	12970	11	699	13470	11	1009	13970	11	1314
12480	11	396	12980	11	706	13480	11	1015	13980	11	1321
12490	11	402	12990	11	713	13490	11	1021	13990	11	1327
12500	11	408	13000	11	719	13500	11	1027	14000	11	1333
12600	**11**	**470**				**13600**	**11**	**1089**			

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

10,000 Kc to 12,000 Kc

Freq.	A	B	*Freq.*	A	B	*Freq.*	A	B	*Freq.*	A	B
9900	**9**	**843** (.08 divisions per kc)	**10350**	**9**	**1211**	11000	10	195	**11400**	**10**	**469** (0.68 divisions per kc)
10000	9	925	10500	9	1333 (.08 divisions per kc)	11010	10	202	11500	10	538
10010	9	933	10510	9	1341	11020	10	209	11510	10	545
10020	9	941	10520	9	1349	11030	10	216	11520	10	551
10030	9	949	10530	9	1357	11040	10	223	11530	10	557
10040	9	957	10540	9	1365	11050	10	230	11540	10	563
10050	9	965	10550	9	1373	11060	10	237	11550	10	570
			10560	9	1381	11070	10	243			
10060	9	973	10570	9	1389	11080	10	249	11560	10	577
10070	9	982				11090	10	256	11570	10	584
10080	9	991	10580	9	1397	11100	10	264	11580	10	591
10090	9	999	10590	9	1405	11110	10	270	11590	10	598
10100	9	1007	10600	9	1413	11120	10	277 (0.68 divisions per kc)	11600	10	605
10110	9	1015	10610	9	1421	11130	10	284	11610	10	613
10120	9	1023	10620	9	1430	11140	10	291	11620	10	619
10130	9	1031 (.08 divisions per kc)	10630	9	1438	11150	10	297	11630	10	625
10140	9	1039	10640	9	1446	11160	10	305	11630	10	625
10150	9	1047	10650	9	1454	11170	10	311	11650	10	639
10160	9	1055	10660	9	1462 (.08 divisions per kc)	11180	10	317	11660	10	646
10170	9	1064	10670	9	1470	11190	10	324	11670	10	653 (0.68 divisions per kc)
10180	9	1072	10680	9	1478	11200	10	331	11690	10	660
10190	9	1080	10690	9	1486	11210	10	338	11690	10	667
10200	**9**	**1089**	10700	9	1494	11220	10	345	**11700**	**10**	**674**
10210	9	1097	10710	9	1504	11230	10	352	11710	10	680
10220	9	1105	10720	9	1512	11240	10	359	11720	10	687
10230	9	1113	10730	9	1520	**11250**	**10**	**366**	11730	10	694
10240	9	1121	10740	9	1528	11260	10	372	11740	10	701
10250	9	1129	10750	9	1536	11270	10	378	11750	10	708
10260	9	1138	10760	9	1544	11280	10	385	11760	10	715
			10770	9	1552	11290	10	392	11770	10	722
10270	9	1146	10780	9	1560	11300	10	399	11780	10	729
10280	9	1154	10790	9	1569	11310	10	406	11790	10	736
10290	9	1162	**10800**	**9**	**1578**	11320	10	413	11800	10	742
10300	9	1170							11810	10	748
10310	9	1178	**10800**	**10**	**060**	11330	10	420	11820	10	755
10320	9	1186	10810	10	066	11340	10	427	11830	10	762
10330	9	1194	10820	10	072	11350	10	433	11840	10	769
10340	9	1202	10830	10	079	11360	10	440	11850	10	776
10350	**9**	**1211** (.08 divisions per kc)	10840	10	086	11370	10	447			
10360	9	1219	10850	10	093	11380	10	454 (0.68 divisions per kc)	11860	10	783
10370	9	1227	10860	10	100	11390	10	462	11870	10	790
10380	9	1235	10870	10	107 (0.68 divisions per kc)	**11400**	**10**	**469**	11880	10	797
10390	9	1243	10880	10	114	11410	10	475	11890	10	803
10400	9	1251	10890	10	121	11420	10	482	11900	10	810 (0.68 divisions per kc)
10410	9	1259	10900	10	127	11430	10	489	11910	10	817
10420	9	1267	10910	10	134	11440	10	495	11920	10	824
10430	9	1275	10920	10	141	11450	10	503	11930	10	831
10440	9	1284	10930	10	148	11460	10	510	11940	10	838
10450	9	1292	10940	10	155	11470	10	517	11950	10	845
10460	9	1300	10950	10	162	11480	10	524	11960	10	852
10470	9	1308	10960	10	169	11490	10	531	11970	10	859
10480	9	1316	10970	10	176	11500	10	538	11980	10	866
10490	9	1324	10980	10	183				11990	10	873
10500	9	1333	10990	10	189				**12000**	**10**	**879**
			11000	10	195						

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

16,000 Kc to 18,100 Kc

Freq.	A	G	
16000	**12**	**879**	
16010	12	884	
16020	12	890	(0.5 divisions per kc)
16030	12	895	
16040	12	900	
16050	12	905	
16060	12	910	
16070	12	915	
16080	12	920	
16090	12	925	
16100	12	930	
16110	12	935	
16120	12	940	
16130	12	945	
16140	12	951	
16150	12	956	(0.5 divisions per kc)
16160	12	961	
16170	12	966	
16180	12	971	
16190	12	976	
16200	**12**	**981**	
16210	12	986	
16220	12	991	
16230	12	996	
16240	12	1001	
16250	12	1006	
16260	12	1012	
16270	12	1017	
16280	12	1022	
16290	12	1027	
16300	12	1032	
16310	12	1037	
16320	12	1042	
16330	12	1047	(0.5 divisions per kc)
16340	12	1052	
16350	12	1057	
16360	12	1062	
16370	12	1067	
16380	12	1073	
16390	12	1078	
16400	12	1083	
16410	12	1088	
16420	12	1093	
16430	12	1098	
16440	12	1103	
16450	12	1108	
16460	12	1113	
16470	12	1118	
16480	12	1123	
16490	12	1128	
16500	12	1133	

Freq.	A	G	
16500	12	1133	
16510	12	1138	
16520	12	1143	
16530	12	1148	
16540	12	1153	
16550	12	1158	
16560	12	1163	
16570	12	1168	
16580	12	1173	
16590	12	1179	(0.51 divisions per kc)
16600	12	1184	
16610	12	1189	
16620	12	1194	
16630	12	1199	
16640	12	1204	
16650	12	1209	
16660	12	1214	
16670	12	1219	
16680	12	1224	
16690	12	1229	
16700	12	1234	
16710	12	1239	
16720	12	1244	
16730	12	1249	
16740	12	1254	
16750	12	1259	
16760	12	1264	
16770	12	1270	
16780	12	1275	
16790	12	1280	
16800	**12**	**1285**	
16810	12	1290	(0.51 divisions per kc)
16820	12	1295	
16830	12	1300	
16840	12	1305	
16850	12	1310	
16860	12	1315	
16870	12	1320	
16880	12	1325	
16890	12	1330	
16900	12	1335	
16910	12	1340	
16920	12	1345	
16930	12	1350	
16940	12	1355	
16950	12	1361	
16960	12	1366	
16970	12	1371	
16980	12	1376	
16990	12	1381	
17000	12	1386	

Freq.	A	G	
16800	**12**	**1285**	
17000	12	1386	
17010	12	1391	(0.52 divisions per kc)
17020	12	1396	
17030	12	1401	
17040	12	1406	
17050	12	1411	
17060	12	1416	
17070	12	1421	
17080	12	1426	
17090	12	1431	
17100	12	1436	
17110	12	1441	
17120	12	1446	
17130	12	1452	
17140	12	1457	
17150	12	1462	
17160	12	1467	
17170	12	1472	
17180	12	1477	
17190	12	1482	
17200	12	1487	
17210	12	1492	
17220	12	1498	
17230	12	1503	
17240	12	1508	
17250	12	1513	
17260	12	1518	
17270	12	1523	
17280	12	1528	(0.53 div. per kc)
17290	12	1533	
17300	12	1538	
17310	12	1544	
17320	12	1549	
17330	12	1554	
17340	12	1559	
17350	12	1564	
17360	12	1569	
17370	12	1574	
17380	12	1579	
17390	12	1584	
17400	**12**	**1590**	
17410	12	1595	
17420	12	1600	
17430	12	1605	
17440	12	1610	
17450	12	1615	
17460	12	1621	
17470	12	1626	
17480	12	1631	
17490	12	1636	
17500	12	1641	
17510	12	1647	(0.53 div. per kc)
17520	12	1653	
17530	12	1658	
17540	12	1663	
17550	12	1668	
17600	**12**	**1694**	

Freq.	A	G	
17550	12	1668	
17560	12	1673	
17570	12	1678	
17580	12	1683	
17590	12	1688	
17600	**12**	**1694**	
17610	12	1699	
17620	12	1704	
17630	12	1709	
17640	12	1715	(0.54 divisions per kc)
17650	12	1720	
17660	12	1725	
17670	12	1731	
17680	12	1736	
17690	12	1742	
17700	12	1747	
17710	12	1752	
17720	12	1757	
17730	12	1763	
17740	12	1768	
17750	12	1773	
17760	12	1779	
17770	12	1784	
17780	12	1789	
17790	12	1795	
17800	12	1800	
17810	12	1805	
17820	12	1811	
17830	12	1816	
17840	12	1821	
17850	12	1827	
17860	12	1832	
17870	12	1837	
17880	12	1843	
17890	12	1848	
17900	12	1854	
17910	12	1860	
17920	12	1865	(0.58 divisions per kc)
17930	12	1871	
17940	12	1877	
17950	12	1882	
17960	12	1888	
17970	12	1893	
17980	12	1898	
17990	12	1904	
18000	**12**	**1910**	
18010	12	1915	
18020	12	1921	
18030	12	1927	
18040	12	1933	
18050	12	1939	
18060	12	1944	
18070	12	1949	
18080	12	1955	
18090	12	1961	
18100	12	1966	

Use nearest check point shown in heavy type.

TABLE 5-5. CALIBRATION OF TRANSMITTER T-47A/ART-13 OR T-47/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

14,000 Kc to 16,000 Kc

Freq.	A	B		*Freq.*	A	B		*Freq.*	A	B		*Freq.*	A	B	
13800	**11**	**1211**		**14400**	**12**	**060**		**15000**	**12**	**366**		15500	12	623	
14000	11	1333		14500	12	111		15010	12	371		15510	12	628	
14010	11	1339	(0.6 divisions per kc)	14510	12	116		15020	12	376	(0.5 divisions per kc)	15520	12	633	
14020	11	1345		14520	12	121		15030	12	381		15530	12	638	
14030	11	1351		14530	12	126		15040	12	386		15540	12	644	
14040	11	1357		14540	12	131		15050	12	391		15550	12	649	
14050	11	1363		14550	12	137		15060	12	397		15560	12	654	
14060	11	1369		14560	12	142		15070	12	402		15570	12	659	
14070	11	1376		14570	12	147		15080	12	407		15580	12	664	
14080	11	1382		14580	12	152		15090	12	412		15590	12	669	
14090	11	1388		14590	12	157	(0.5 divisions per kc)	15100	12	417		**15600**	**12**	**674**	
14100	11	1394		14600	12	162						15610	12	679	
				14610	12	168		15110	12	422		15620	12	684	(0.5 divisions per kc)
14110	11	1400		14620	12	173		15120	12	427		15630	12	689	
14120	11	1406		14630	12	178		15130	12	432		15640	12	694	
14130	11	1412		14640	12	183		15140	12	437		15650	12	699	
14140	11	1418		14650	12	188		15150	12	443		15660	12	705	
14150	11	1424		14660	12	193		15160	12	448		15670	12	710	
14160	11	1430		14670	12	198		15170	12	453		15680	12	715	
14170	11	1436		14680	12	203		15180	12	458		15690	12	721	
14180	11	1442		14690	12	208		15190	12	463		15700	12	726	
14190	11	1449		14700	12	213		**15200**	**12**	**469**		15710	12	731	
14200	11	1455		14710	12	218		15210	12	474		15720	12	736	
14210	11	1461		14720	12	223		15220	12	479		15730	12	741	
14220	11	1468	(0.6 divisions per kc)	14730	12	228		15230	12	484	(0.5 divisions per kc)	15740	12	746	
14230	11	1474		14740	12	233		15240	12	489		15750	12	752	
14240	11	1480		14750	12	238		15250	12	494		15760	12	757	
14250	11	1486						15260	12	499		15770	12	762	
14260	11	1492		14760	12	243		15270	12	505		15780	12	767	
14270	11	1498		14770	12	248		15280	12	510		15790	12	772	
14280	11	1504		14780	12	253		15290	12	515		15800	12	777	
14290	11	1510		14790	12	259		15300	12	520					
14300	11	1516		14800	12	264		15310	12	525		15810	12	782	
14310	11	1523		14810	12	269		15320	12	530		15820	12	787	
14320	11	1529		14820	12	274		15330	12	535		15830	12	792	
14330	11	1535		14830	12	279		15340	12	540		15840	12	797	
14340	11	1541		14840	12	284		15350	12	545		15850	12	802	
14350	11	1547		14850	12	290	(0.5 divisions per kc)	15360	12	551		15860	12	807	
14360	11	1553		14860	12	295		15370	12	556		15870	12	813	(0.5 divisions per kc)
14370	11	1560		14870	12	300		15380	12	561		15880	12	818	
14380	11	1566		14880	12	305		15390	12	567		15890	12	823	
14390	11	1572		14890	12	310		15400	12	572		15900	12	828	
14400	**11**	**1578**		14900	12	315						15910	12	833	
				14910	12	320		15410	12	577		19520	12	838	
14400	**12**	**060**		14920	12	325		15420	12	582		15930	12	844	
14410	12	065		14930	12	330		15430	12	587	(0.5 divisions per kc)	15940	12	849	
14420	12	070		14940	12	335		15440	12	592		15950	12	854	
14430	12	076	(0.5 div. per kc)	14950	12	340		15450	12	597		15960	12	859	
14440	12	081		14960	12	345		15460	12	602		15970	12	864	
14450	12	086		14970	12	351		15470	12	607		15980	12	869	
14460	12	091		14980	12	356		15480	12	613		15990	12	874	
14470	12	096		14990	12	361		15490	12	618		**16000**	**12**	**879**	
14480	12	101		**15000**	**12**	**366**		15500	12	623					
14490	12	106						**15600**	**12**	**674**					
14500	12	111													

Use nearest check point shown in heavy type.

TABLE 5-6. CALIBRATION OF OSCILLATOR 0-16/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED

200 Kc to 750 Kc

Freq.	A	F	G	
200	**13**	**1**	**393**	
202	13	1	469	
204	13	1	540	(30 divisions per kc)
206	13	1	609	
208	13	1	676	
210	13	1	739	
212	13	1	801	
214	13	1	861	
216	13	1	919	
218	13	1	976	
220	13	1	1030	
222	13	1	1084	
224	13	1	1136	
226	13	1	1187	
228	13	1	1237	(23 divisions per kc)
230	13	1	1286	
232	13	1	1334	
234	13	1	1381	
236	13	1	1426	
238	13	1	1472	
240	**13**	**1**	**1515**	
242	13	1	1560	
244	13	1	1603	
246	13	1	1646	
248	13	1	1688	(20 divisions per kc)
250	**13**	**1**	**1729**	
252	13	1	1770	
254	13	1	1810	
256	13	1	1851	
258	13	1	1890	
260	13	1	1929	
262	13	1	1968	
262	13	2	175	
264	13	2	242	
266	13	2	305	
267	**13**	**2**	**325**	(28 divisions per kc)
268	13	2	366	
270	13	2	423	
272	13	2	480	
274	13	2	533	
276	13	2	585	
278	13	2	635	
280	13	2	684	
282	13	2	731	
284	13	2	778	
286	13	2	823	(21 divisions per kc)
288	13	2	868	
290	13	2	911	
292	13	2	953	
294	13	2	995	
296	13	2	1035	
298	13	2	1075	
300	**13**	**2**	**1114**	
300	**13**	**2**	**1114**	
302	13	2	1153	(18 divisions per kc)
304	13	2	1192	
306	13	2	1229	
308	13	2	1266	
310	13	2	1302	
312	13	2	1338	
314	13	2	1373	
316	13	2	1407	
318	13	2	1442	
320	13	2	1476	
322	13	2	1508	
324	13	2	1542	(16 divisions per kc)
326	13	2	1574	
328	13	2	1606	
330	13	2	1638	
332	13	2	1670	
333	**13**	**1**	**1691**	
334	13	2	1701	
336	13	2	1732	
338	13	2	1763	
340	13	2	1793	
342	13	2	1823	(17 divisions per kc)
344	13	2	1854	
346	13	2	1883	
348	13	2	1912	
350	**13**	**2**	**1942**	
352	13	2	1971	
354	13	2	2000	
356	13	2	2028	
350	**13**	**3**	**154**	
352	13	3	205	
354	13	3	255	
356	13	3	302	(21 divisions per kc)
358	13	3	347	
360	13	3	392	
362	13	3	434	
364	13	3	476	
366	13	3	515	
368	13	3	555	
370	13	3	593	
372	13	3	631	
374	13	3	668	
376	13	3	704	
378	13	3	739	
380	13	3	774	
382	13	3	808	(16 divisions per kc)
384	13	3	841	
386	13	3	874	
388	13	3	906	
390	13	3	938	
392	13	3	970	
394	13	3	1000	
396	13	3	1030	
398	13	3	1061	
400	**13**	**3**	**1090**	
400	**13**	**3**	**1090**	
402	13	3	1120	
404	13	3	1148	
406	13	3	1177	
408	13	3	1205	
410	13	3	1233	(13 divisions per kc)
412	13	3	1260	
414	13	3	1288	
416	13	3	1314	
418	13	3	1341	
420	13	3	1368	
422	13	3	1394	
424	13	3	1419	
426	13	3	1445	
428	13	3	1470	
430	13	3	1495	
432	13	3	1519	
434	13	3	1544	
436	13	3	1569	
438	13	3	1593	
440	13	3	1616	
442	13	3	1641	
444	13	3	1665	
446	13	3	1688	
448	13	3	1710	
450	13	3	1734	(11 divisions per kc)
452	13	3	1757	
454	13	3	1780	
456	13	3	1802	
458	13	3	1825	
460	13	3	1847	
462	13	3	1870	
464	13	3	1892	
466	13	3	1912	
467	**13**	**3**	**1921**	
468	13	3	1936	
470	13	3	1958	
472	13	3	1980	
474	13	3	2001	
476	13	3	2022	
467	**13**	**4**	**176**	
468	13	4	191	(11 divisions per kc)
470	13	4	213	
472	13	4	235	
474	13	4	257	
476	13	4	279	
478	13	4	300	
480	13	4	321	
482	13	4	342	
484	13	4	363	(10 divisions per kc)
486	13	4	383	
488	13	4	402	
490	13	4	422	
492	13	4	442	
494	13	4	462	
496	13	4	481	
498	13	4	499	
500	**13**	**4**	**518**	
500	**13**	**4**	**518**	(9 divisions per kc)
505	13	4	565	
510	13	4	609	
515	13	4	654	
520	13	4	697	
525	13	4	739	
530	13	4	781	(8 divisions per kc)
533	**13**	**4**	**808**	
535	13	4	821	
540	13	4	862	
545	13	4	901	
550	13	4	940	
555	13	4	978	
560	13	4	1016	
565	13	4	1053	
570	13	4	1090	
575	13	4	1127	
580	13	4	1163	
585	13	4	1198	(7 divisions per kc)
590	13	4	1234	
595	13	4	1270	
600	**13**	**4**	**1304**	
605	13	4	1340	
610	13	4	1375	
615	13	4	1408	
620	13	4	1444	
625	13	4	1479	
630	13	4	1512	
635	13	4	1548	
640	13	4	1584	
645	13	4	1618	(7 divisions per kc)
650	13	4	1655	
655	13	4	1691	
660	13	4	1728	
665	13	4	1766	
667	**13**	**4**	1779	
670	13	4	1804	
675	13	4	1845	
680	13	4	1886	
685	13	4	1928	(9 div.)
690	13	4	1976	
695	13	4	2023	
695	13	5	156	
700	**13**	**5**	**195**	
705	13	5	231	
710	13	5	269	(7 divisions per kc)
715	13	6	303	
720	13	5	338	
725	13	5	373	
730	13	5	406	
733	**13**	**5**	**427**	
735	13	5	438	
740	13	5	471	
745	13	5	502	
750	**13**	**5**	**533**	

Use nearest check point shown in heavy type.

TABLE 5-6

CALIBRATION OF OSCILLATOR 0-16/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED

200 Kc to 1500 Kc

TABLE 5-7

CALIBRATION OF APPROXIMATE DIAL SETTINGS FOR ALL RADIO TRANSMITTING SETS

TABLE 5-6. CALIBRATION OF OSCILLATOR 0-16/ART-13 WHEN MCW-CFI 8Q-1 UNIT IS USED (Continued)

750 Kc to 1500 Kc

Freq.	A	F	G	
750	**13**	**5**	**533**	(6 div. per kc)
755	13	5	565	
760	13	5	594	
765	13	5	624	
770	13	5	654	
775	13	5	683	(5.5 div. per kc)
780	13	5	711	
785	13	5	739	
790	13	5	768	
795	13	5	795	
800	**13**	**5**	**821**	
805	13	5	849	
810	13	5	876	
815	13	5	901	
820	13	5	927	
825	13	5	953	
830	13	5	979	
835	13	5	1004	(4.8 divisions per kc)
840	13	5	1029	
845	13	5	1054	
850	13	5	1079	
855	13	5	1103	
860	13	5	1127	
865	13	5	1152	
867	**13**	**5**	**1160**	
870	13	5	1176	
875	13	5	1199	
880	13	5	1223	
885	13	5	1247	(4.6 divisions per kc)
890	13	5	1270	
895	13	5	1294	
900	**13**	**5**	**1317**	
905	13	5	1341	
910	13	5	1364	
915	13	5	1387	
920	13	5	1410	(4.6 divisions per kc)
925	13	5	1433	
930	13	5	1457	
933	**13**	**5**	**1473**	
935	13	5	1480	
940	13	5	1503	
945	13	5	1526	
950	13	5	1550	
955	13	5	1574	
960	13	5	1597	
965	13	5	1621	(4.8 divisions per kc)
970	13	5	1645	
975	13	5	1670	
980	13	5	1694	
985	13	5	1718	
990	13	5	1744	
995	13	5	1770	
1000	**13**	**5**	**1795**	

Freq.	A	F	G	
1000	**13**	**5**	**1795**	(5.3 divisions per kc)
1005	13	5	1822	
1010	13	5	1850	
1015	13	5	1878	
1020	13	5	1905	
1025	13	5	1935	
1030	13	5	1966	
1035	13	5	1998	
1035	13	6	145	(4.9 div. per kc)
1040	13	6	171	
1045	13	6	196	
1050	**13**	**6**	**219**	
1055	13	6	244	
1060	13	6	270	(4.5 div. per kc)
1065	13	6	293	
1067	**13**	**6**	**300**	
1070	13	6	315	
1075	13	6	338	
1080	13	6	363	
1085	13	6	385	(4.3 div. per kc)
1090	13	6	407	
1095	13	6	428	
1100	**13**	**6**	**451**	
1105	13	6	473	
1110	13	6	493	
1115	13	6	514	
1120	13	6	534	(4 div. per kc)
1125	13	6	556	
1130	13	6	576	
1133	**13**	**6**	**589**	
1135	13	6	596	
1140	13	6	615	(3.9 div. per kc)
1145	13	6	635	
1150	**13**	**6**	**656**	
1155	13	6	675	
1160	13	6	694	
1165	13	6	712	
1170	13	6	731	
1175	13	6	751	
1180	13	6	770	(3.5 div. per kc)
1185	13	6	788	
1190	13	6	806	
1195	13	6	823	
1200	**13**	**6**	**842**	
1205	13	6	860	
1210	13	6	878	
1215	13	6	895	
1220	13	6	918	
1225	13	6	930	
1230	13	6	948	
1235	13	6	966	(3.4 div. per kc)
1240	13	6	983	
1245	13	6	999	
1250	13	6	1016	
1267	**13**	**6**	**1073**	

Freq.	A	F	G	
1250	13	6	1016	(3.3 divisions per kc)
1255	13	6	1032	
1260	13	6	1050	
1265	13	6	1067	
1267	**13**	**6**	**1073**	
1270	13	6	1084	
1275	13	6	1100	
1280	13	6	1116	
1285	13	6	1132	(3.2 divisions per kc)
1290	13	6	1149	
1295	13	6	1166	
1300	**13**	**6**	**1182**	
1305	13	6	1198	
1310	13	6	1214	
1315	13	6	1230	
1320	13	6	1246	
1325	13	6	1262	
1330	13	6	1278	
1335	13	6	1294	
1340	13	6	1309	
1345	13	6	1325	
1350	13	6	1341	
1355	13	6	1358	(3.2 divisions per kc)
1360	13	6	1374	
1365	13	6	1389	
1370	13	6	1404	
1375	13	6	1419	
1380	13	6	1436	
1385	13	6	1452	
1390	13	6	1468	
1395	13	6	1484	
1400	**13**	**6**	**1499**	
1405	13	6	1514	
1410	13	6	1530	
1415	13	6	1547	
1420	13	6	1563	
1425	13	6	1580	
1430	13	6	1595	
1435	13	6	1611	(3.4 divisions per kc)
1440	13	6	1627	
1445	13	6	1644	
1450	13	6	1661	
1455	13	6	1678	
1460	13	6	1694	
1465	13	6	1710	
1467	**13**	**6**	**1715**	
1470	13	6	1727	
1475	13	6	1744	
1480	13	6	1763	
1485	13	6	1780	(3.5 div. per kc)
1490	13	6	1797	
1495	13	6	1813	
1500	**13**	**6**	**1832**	

Use nearest check point shown in heavy type.

TABLE 5-7. CALIBRATION OF APPROXIMATE DIAL SETTINGS FOR ALL RADIO TRANSMITTING SETS (CONTINUED)

45 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	1	3
250	3	2
300	4	1
400	5	1
500	5	2
600	5	3

Transmitter

KC	C	D	E
2200	1–2	. . .	0
2500	2–3	. . .	20
3000	4–5	. . .	62
3500	5–6	. . .	90
4000	6	. . .	120
5000	7	. . .	155
6000	7	100	175
6100	7	100	185
7000	8	59	106
8000	8	69	129
9000	8	85	106
9800	8	100	90
10000	10	53	200
11000	10	64	200
12000	10	73	200
13000	10	83	200
13740	10	100	182
14000	12	70	200
15000	12	82	92
16000	12	85	125
17000	12	87	164
18000	12	86	195

50 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	2	1
250	3	2
300	4	2
400	5	1
500	5	2
600	5	3

Transmitter

KC	C	D	E
2100	1–2	. . .	0
2500	3–4	. . .	19
3000	4–5	. . .	55
3500	5–6	. . .	95
4000	6–7	. . .	120
5000	7	. . .	160
5500	7	100	180
6000	8	38	90
7000	8	48	148
8000	8	65	152
9000	8	85	148
10000	8	92	142
11000	11	53	200
12000	11	72	200
13000	11	82	200
14000	11	100	0
15000	11	98	135
16000	13	69	136
17000	13	71	164
18000	13	68	184

This Table for Use *Without* Shunt Capacitor

55 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	2	1
250	3	3
300	4	2
400	5	1
500	5	2
600	5	3

Transmitter

KC	C	D	E
2000	1–2	. . .	0
2500	3–4	. . .	15
3000	4–5	. . .	45
3500	5–6	. . .	100
4000	6–7	. . .	130
5000	7	100	168
5170	7	100	181
6000	8	35	126
7000	8	51	152
8000	8	64	160
9000	8	81	136
9700	8	100	106
10000	9	68	195
11000	9	87	171
11500	9	100	165
12000	10	90	161
12200	10	100	82
13000	12	62	133
14000	12	63	183
15000	12	68	200
16000	13	45	169
17000	13	62	177
18000	13	72	185

60 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	2	2
250	3	3
300	4	2
400	5	1
500	5	2
600	5	3

Transmitter

KC	C	D	E
2000	1–2	. . .	0
2500	3–4	. . .	15
3000	5–6	. . .	55
3500	6–7	. . .	90
4000	7	. . .	125
4800	7	100	178
5000	8	4	60
6000	8	22	155
7000	8	44	170
8000	8	63	164
9000	8	80	150
9700	8	100	120
10000	9	74	186
10880	9	100	123
11000	10	78	181
11350	10	89	0
12000	11	75	190
13000	12	49	197
15000	12	71	200
17000	12	85	200
18000	12	94	200

This Table for Use *Without* Shunt Capacitor

20 Ft. Antenna

Airplane and Antenna

Transmitter with Three Sections of Shunt Capacitor

KC	C	D	E
2100	1	. . .	0
2500	3–4	. . .	0
3000	4–5	. . .	30
3500	5–6	. . .	52
4000	6	. . .	65
5000	6–7	. . .	102
6000	7	50	118
8000	7	72	146
10000	7	90	168
10500	7	100	174
11000	10	94	200
11300	10	100	200
11600	11	75	0
12000	11	75	80
13000	11	80	142
14000	11	86	180
15000	11	92	200
16000	13	66	185
17000	13	84	190
17700	13	100	200

22.5 Ft. Antenna

Airplane and Antenna

Transmitter with Three Sections of Shunt Capacitor

KC	C	D	E
2100	1	. . .	0
2500	2–3	. . .	20
3000	4–5	. . .	45
3500	5–6	. . .	62
4000	6	. . .	80
5000	6–7	. . .	108
6000	7	48	120
7000	7	65	132
8000	7	76	149
10000	7	94	184
10400	7	100	200
10450	10	73	0
11000	10	76	75
12000	10	82	160
13000	10	88	178
14000	10	96	195
14100	10	100	200
14500	13	0	175
15000	13	30	200
16000	13	67	200
17000	13	85	200
17600	13	100	200

This Table for Use *With* Shunt Capacitor

25 Ft. Antenna

Airplane and Antenna

Transmitter with Three Sections of Shunt Capacitor

KC	C	D	E
2160	1–2	. . .	0
2500	2–3	. . .	28
3000	4–5	. . .	50
3500	5–6	. . .	65
4000	6–7	. . .	80
5000	6–7	. . .	106
6000	7	44	125
7000	7	64	140
9000	7	80	184
9500	7	90	200
10000	10	66	92
11000	10	68	166
12000	10	74	184
13000	10	82	192
14000	10	90	200
14500	10	100	200
15000	13	0	181
16000	13	51	200
17000	13	73	200
18000	13	89	200

27.5 Ft. Antenna

Airplane and Antenna

Transmitter with Three Sections of Shunt Capacitor

KC	C	D	E
2130	1–2	. . .	0
2500	2–3	. . .	20
3000	4–5	. . .	44
3500	5–6	. . .	65
4000	6	. . .	85
5000	6–7	. . .	116
6000	7	52	138
7000	7	65	154
8000	7	75	174
8800	7	86	200
9000	10	59	40
10000	10	62	156
11000	10	63	191
12000	10	75	200
13000	10	84	200
14000	10	92	200
14400	10	100	200
15000	11	94	200
15600	11	100	200
16000	13	56	200
17000	13	76	200
18000	13	90	200

This Table for Use *With* Shunt Capacitor

TABLE 5-7. CALIBRATION OF APPROXIMATE DIAL SETTINGS FOR ALL RADIO TRANSMITTING SETS

20 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
210	1	1
250	2	2
300	3	2
400	4	3
500	5	1
600	5	2

Transmitter

KC	C	D	E
3000	1–2	...	70
3500	2–3	...	115
4000	3–4	...	130
5000	4–5	70	150
6000	5–6	45	170
8000	6–7	30	185
10000	7	75	190
11000	7	90	200
11300	7	100	200
11500	11	85	200
12000	11	75	30
13000	11	75	140
14000	11	80	164
15000	11	85	170
16000	12	75	190
18000	12	85	200

22.5 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
208	1	1
250	2	2
300	3	2
400	4	3
500	5	1
600	5	2

Transmitter

KC	C	D	E
2800	1–2	...	70
3000	1–2	...	70
3500	2–3	...	120
4000	3–4	...	130
5000	4–5	90	150
6000	5–6	60	160
8000	6–7	40	185
10000	7	80	200
10500	11	77	200
11000	11	64	66
12000	11	65	150
13000	11	68	165
14000	11	75	180
15000	11	80	180
16000	12	75	200
17000	13	60	175
18000	13	65	185

This Table for Use Without Shunt Capacitor

30 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	1	1
250	2	3
300	3	4
400	4	4
500	5	1
600	5	2

Transmitter

KC	C	D	E
2500	1–2	...	20
3000	3–4	...	70
3500	4	...	95
4000	4–5	...	120
5000	5–6	...	145
6000	6–7	....	165
8000	7	95	180
8500	7	100	200
9000	10	48	130
10000	10	50	170
11000	10	55	200
12000	10	63	200
14000	10	82	200
15000	10	92	200
15600	10	98	200
16000	11	90	200
16600	11	98	200
17000	13	45	188
18000	13	70	188

32.5 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	1	1
250	2	3
300	3	4
400	5	1
500	5	2
600	5	2

Transmitter

KC	C	D	E
2450	1–2	...	26
3000	3	...	65
3500	4–5	...	100
4000	5	...	120
5000	5–6	...	150
6000	6–7	...	165
8000	7	100	200
9000	10	42	160
10000	10	46	185
11000	10	54	200
12000	10	65	200
13000	10	75	200
14000	10	82	200
14600	10	88	200
16000	11	100	188
16200	11	100	200
16500	13	69	160
17000	13	70	170
18000	13	75	180

This Table for Use Without Shunt Capacitor

25 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
207	1	1
250	2	2
300	3	3
400	4	4
500	5	1
600	5	2

Transmitter

KC	C	D	E
2700	1–2	...	10
3000	2–3	...	60
3500	3–4	...	100
4000	4-5	...	125
5000	5–6	...	150
6000	6	80	160
8000	6–7	70	180
9800	7	100	200
10000	10	65	55
11000	10	65	150
12000	10	70	170
14000	10	85	180
15000	10	95	190
16000	11	95	200
17000	13	35	190
18000	13	55	195

27.5 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
204	1	1
250	2	2
300	3	3
400	4	4
500	5	1
600	5	2

Transmitter

KC	C	D	E
2600	1	...	0
3000	2	...	75
3500	3–4	...	110
4000	4 5	...	130
5000	6	...	150
6000	6–7	...	165
8000	7	70	190
9100	7	100	200
9500	10	57	80
10000	10	55	110
11000	10	60	175
12000	10	65	185
14000	10	80	195
15500	10	100	195
16500	11	95	200
17000	13	45	190
18000	13	60	195

This Table for Use Without Shunt Capacitor

35 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	1	1
250	2	4
300	3	4
400	5	1
500	5	2
600	5	3

Transmitter

KC	C	D	E
2400	1–2	...	0
3000	3–4	...	70
3500	4–5	...	100
4000	5–6	...	120
5000	6–7	...	145
6000	7	...	160
7000	7	...	180
7600	7	100	200
8000	8	75	40
9000	8	85	62
10000	8	100	100
10400	8	100	126
11000	11	52	200
12000	11	62	200
14000	11	77	200
15000	11	86	200
15700	11	100	190
16000	13	66	152
17000	13	84	142
18000	13	100	154

40 Ft. Antenna

Airplane and Antenna

Antenna Loading Unit

KC	P	Q
200	1	2
250	3	1
300	4	1
400	5	1
500	5	2
600	5	3

Transmitter

KC	C	D	E
2300	1–2	...	3
2500	2–3	...	10
3000	3–4	...	60
3500	4–5	...	95
4000	5–6	...	120
5000	6–7	...	150
6000	7	...	170
6800	7	100	200
7000	8	60	50
8000	8	70	121
9000	8	83	111
10000	8	97	121
10500	8	100	140
11000	10	60	200
12000	10	70	200
14000	10	88	200
14500	10	100	200
15000	12	76	200
16000	12	84	200
17000	12	100	141
18000	12	100	146

This Table for Use Without Shunt Capacitor

TABLE 5-7. CALIBRATION OF APPROXIMATE DIAL SETTINGS FOR ALL RADIO TRANSMITTING SETS (CONTINUED)

30 Ft. Antenna

Airplane and Antenna

Transmitter with Three Sections of Shunt Capacitor

KC	C	D	E
2100	1	...	0
2500	2–3	...	30
3000	4–5	...	48
3500	5–6	...	64
4000	6	...	80
5000	6–7	...	121
6000	7	54	138
7000	7	71	152
8000	7	81	186
8350	7	100	200
8500	10	50	88
9000	10	52	138
10000	10	55	165
11000	10	66	200
12000	10	76	200
13000	10	85	200
13500	10	89	200
14000	10	93	200
14500	11	89	200
15000	11	93	200
15500	13	41	200
16000	13	58	200
17000	13	76	200
18000	13	91	200

32.5 Ft. Antenna

Airplane and Antenna

Transmitter with Two Sections of Shunt Capacitor

KC	C	D	E
2100	1–2	...	0
2500	3–4	...	10
3000	4–5	...	44
3500	5–6	...	70
4000	6–7	...	90
5000	7	...	124
6000	7	55	144
7000	7	70	173
7790	7	90	200
8000	9	64	60
9000	9	69	112
10000	9	74	169
11000	9	81	179
12000	9	90	179
12500	9	100	180
13000	10	86	200
14000	10	95	200
14100	10	100	200
15000	11	94	200
15300	11	100	200
16000	13	60	200
17000	13	86	164
18000	13	100	185

This Table for Use With Shunt Capacitor

45 Ft. Antenna

Airplane and Antenna

Transmitter with One Section of Shunt Capacitor

KC	C	D	E
2050	1–2	...	0
2500	3–4	...	33
3000	4–5	...	70
3500	5–6	...	111
4000	6	...	132
5000	7	43	160
5500	7	54	180
5900	7	60	200
6000	9	30	42
7000	9	42	138
8000	9	55	158
9000	9	67	165
10000	9	74	170
11000	9	83	173
12000	9	100	150
12200	9	100	173
13000	11	80	200
14000	11	91	158
14400	11	100	110
15000	12	82	75
16000	12	85	143
17000	12	89	174
18000	12	92	200

This Table for Use With Shunt Capacitor

35 Ft. Antenna

Airplane and Antenna

Transmitter with Two Sections of Shunt Capacitor

KC	C	D	E
2150	1	...	0
2500	2–3	...	22
3000	4–5	...	60
3500	5–6	...	85
4000	6–7	...	110
5000	7	32	128
6000	7	56	156
7000	7	75	184
7435	7	95	200
7500	9	58	49
8000	9	60	112
9000	9	67	142
10000	9	72	160
11000	9	80	176
12000	9	88	178
13000	9	100	181
14000	10	90	200
14600	10	100	200
15000	13	0	176
16000	13	70	156
17000	13	90	130
17700	13	100	146

40 Ft. Antenna

Airplane and Antenna

Transmitter with Two Sections of Shunt Capacitor

KC	C	D	E
2100	1–2	...	0
2500	3–4	...	25
3000	4–5	...	66
3500	5–6	...	100
4000	6–7	...	120
5000	7	38	144
6000	7	60	179
6500	7	71	200
7000	9	47	94
8000	9	56	148
9000	9	66	162
10000	9	72	174
11000	9	80	177
12000	9	91	178
12600	9	100	179
13000	10	85	200
14000	10	100	180
14190	10	100	192
14500	12	75	200
15000	12	80	200
16000	12	88	150
17000	12	94	108
18000	12	100	157

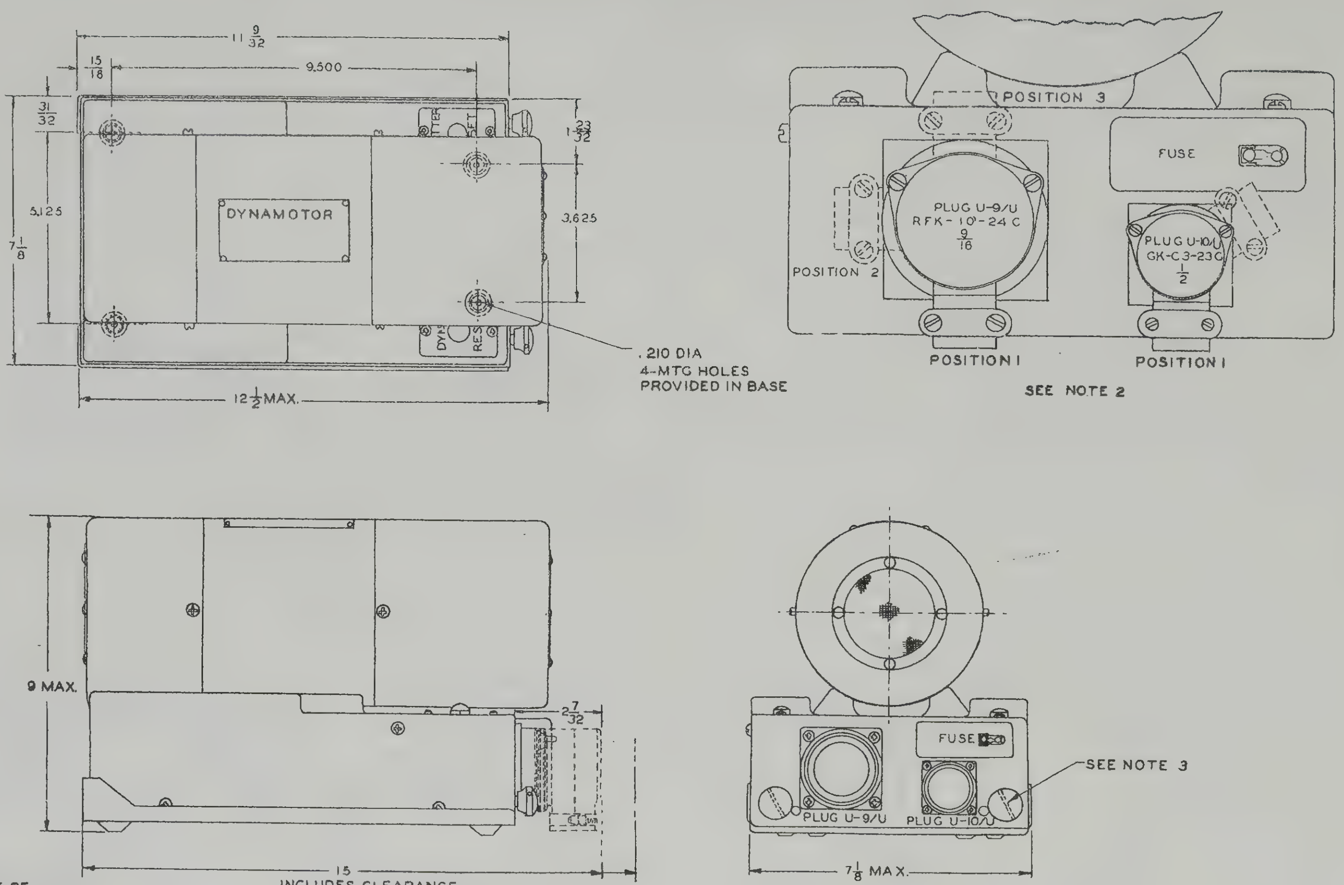
This Table for Use With Shunt Capacitor

200 Foot Trailing Antenna Any Type of Airplane

Antenna Loading Unit

KC	P	Q
200	3	3
250	4	2
300	5	1
400	5	2
500	5	3
600	5	3

There are no approximate settings for use with trailing antenna in high frequency range.


11 9/32
15/18
9.500
31/32
5.125
7 1/8
DYNAMOTOR
1 23/32
3.625
12 1/2 MAX.
.210 DIA
4-MTG HOLES
PROVIDED IN BASE
POSITION 3
FUSE
PLUG U-9/U
RFK-10'-24 C
9/16
POSITION 2
PLUG U-10/U
GK-C 3-23 C
1/2
POSITION I
POSITION I
SEE NOTE 2
9 MAX.
2 7/32
15
INCLUDES CLEARANCE
FOR PLUG REMOVAL
FUSE
PLUG U-9/U
PLUG U-10/U
SEE NOTE 3
7 1/8 MAX.

1 MOUNTING PLATE MUST BE ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE THROUGH MOUNTING FEET AND SCREWS.

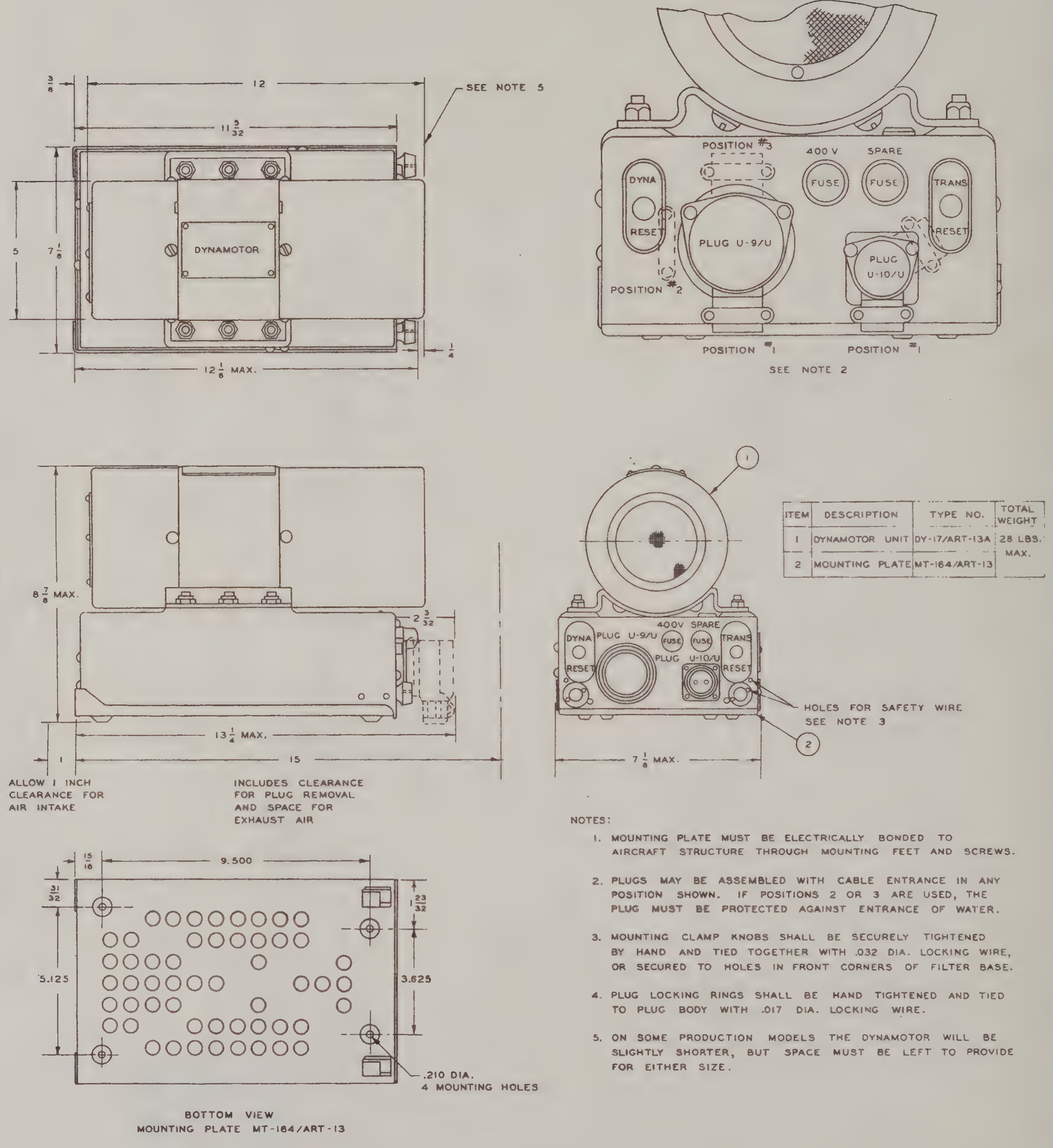
2 PLUGS MAY BE ASSEMBLED WITH CABLE ENTRANCE IN ANY POSITION SHOWN. IF POSITIONS 2 OR 3 ARE USED THE PLUG MUST BE PROTECTED AGAINST ENTRANCE OF WATER.

3 MOUNTING PLATE MUST BE SECURELY TIGHTENED BY HAND AND TIED TOGETHER WITH .032 DIA. SAFETY WIRE.

WEIGHT 30 POUNDS 10 OZ. MAX.

DYNAMOTOR DY-17/ART-13 OR
DYNAMOTOR DY-11/ART-13 OR DYNAMOTOR
DY-12/ART-13 MOUNTING PLATE-MT-184/ART-13

Figure 5-4—Dynamotor Unit DY-11/ART-13 (Navy Type -23333 Power Unit, with Dynamotor -21931) or Dynamotor Unit DY-12/ART-13 (Navy Type -23333 Power Unit with Dynamotor -21932)


SEE NOTE 5
12
3/8
11 3/32
5
7 1/8
DYNAMOTOR
1/4
12 1/8 MAX.
POSITION #3
400 V
SPARE
DYNA
RESET
FUSE
FUSE
TRANS
RESET
PLUG U-9/U
PLUG U-10/U
POSITION #2
POSITION #1
POSITION #1
SEE NOTE 2
8 7/8 MAX.
2 3/32
13 1/4 MAX.
1
15
ALLOW 1 INCH CLEARANCE FOR AIR INTAKE
INCLUDES CLEARANCE FOR PLUG REMOVAL AND SPACE FOR EXHAUST AIR
①
400V SPARE
DYNA
PLUG U-9/U
FUSE
FUSE
TRANS
PLUG U-10/U
RESET
RESET
HOLES FOR SAFETY WIRE
SEE NOTE 3
②
7 1/8 MAX.
15/16
9.500
31/32
1 23/32
5.125
3.625
.210 DIA.
4 MOUNTING HOLES
BOTTOM VIEW
MOUNTING PLATE MT-164/ART-13

ITEM	DESCRIPTION	TYPE NO.	TOTAL WEIGHT
1	DYNAMOTOR UNIT	DY-17/ART-13A	28 LBS. MAX.
2	MOUNTING PLATE	MT-164/ART-13	

NOTES:

1. MOUNTING PLATE MUST BE ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE THROUGH MOUNTING FEET AND SCREWS.
2. PLUGS MAY BE ASSEMBLED WITH CABLE ENTRANCE IN ANY POSITION SHOWN. IF POSITIONS 2 OR 3 ARE USED, THE PLUG MUST BE PROTECTED AGAINST ENTRANCE OF WATER.
3. MOUNTING CLAMP KNOBS SHALL BE SECURELY TIGHTENED BY HAND AND TIED TOGETHER WITH .032 DIA. LOCKING WIRE, OR SECURED TO HOLES IN FRONT CORNERS OF FILTER BASE.
4. PLUG LOCKING RINGS SHALL BE HAND TIGHTENED AND TIED TO PLUG BODY WITH .017 DIA. LOCKING WIRE.
5. ON SOME PRODUCTION MODELS THE DYNAMOTOR WILL BE SLIGHTLY SHORTER, BUT SPACE MUST BE LEFT TO PROVIDE FOR EITHER SIZE.

Figure 5-3—Dynamotor Unit DY-17/ART-13A—Outline Dimensions

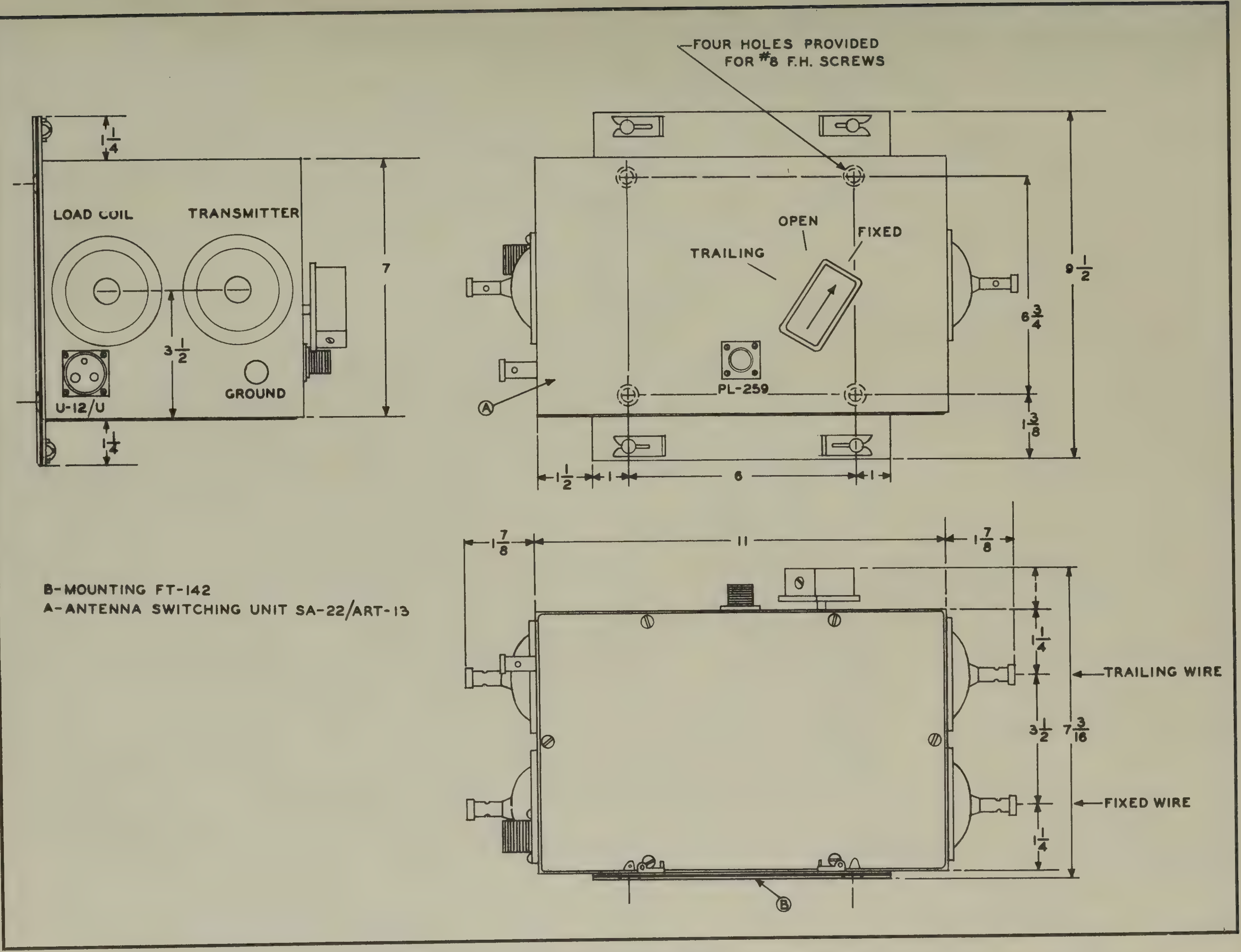
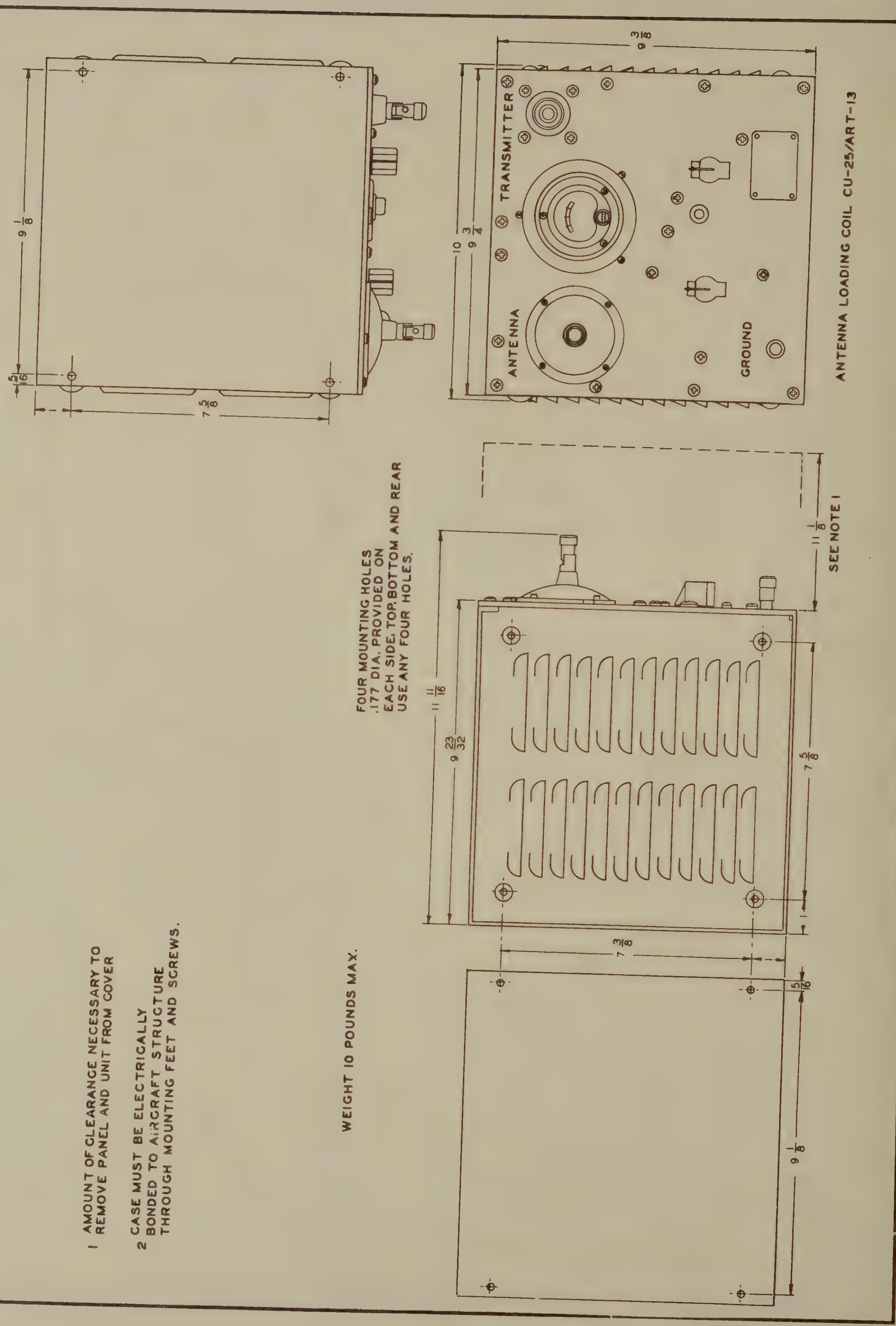

FOUR HOLES PROVIDED FOR #8 F.H. SCREWS
LOAD COIL
TRANSMITTER
GROUND
U-12/U
1 1/4
3 1/2
7
1 1/4
OPEN
FIXED
TRAILING
PL-259
9 1/2
6 3/4
1 3/8
1 1/2
1
6
1
A
1 7/8
11
1 7/8
1 1/4
3 1/2
7 3/16
1 1/4
TRAILING WIRE
FIXED WIRE
B
B-MOUNTING FT-142
A-ANTENNA SWITCHING UNIT SA-22/ART-13

Figure 5-8—Antenna Switching Unit SA-22/ART-13—Outline Dimensions


TRANSMITTER
ANTENNA
GROUND
ANTENNA LOADING COIL CU-25/ART-13
9 3/8
10
9 3/4
9 1/8
5/16
7 5/8
11 11/16
9 23/32
7 5/8
11 1/8
SEE NOTE 1
7 3/8
5/16
9 1/8
1

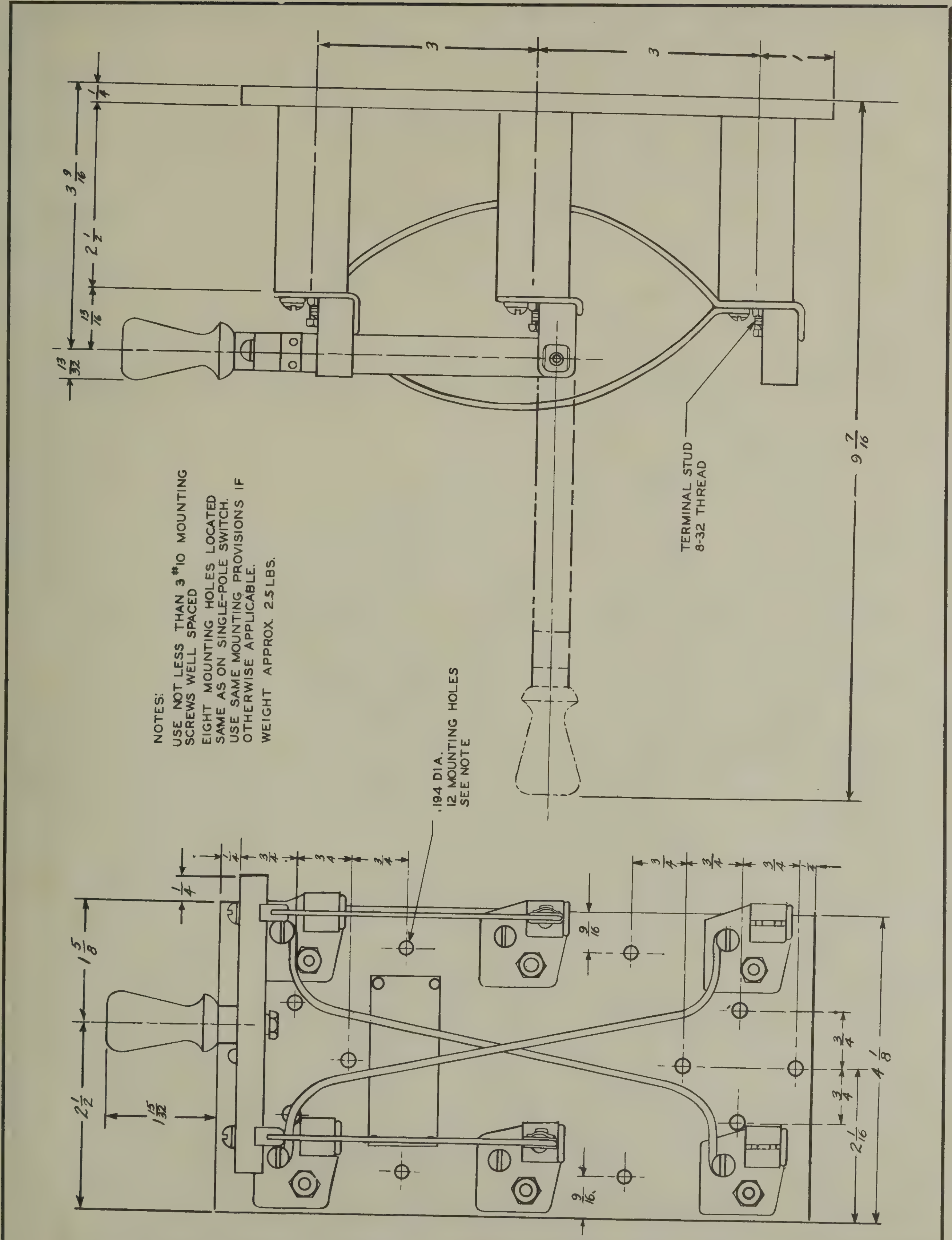
FOUR MOUNTING HOLES .177 DIA. PROVIDED ON EACH SIDE, TOP, BOTTOM AND REAR USE ANY FOUR HOLES.

WEIGHT 10 POUNDS MAX.

1 AMOUNT OF CLEARANCE NECESSARY TO REMOVE PANEL AND UNIT FROM COVER

2 CASE MUST BE ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE THROUGH MOUNTING FEET AND SCREWS.

Figure 5-7—Antenna Loading Coil CU-25/ART-13 (Navy Type -47281)—Outline Dimensions


3
3
1
1/4
3 9/16
2 1/2
13/16
13/32
9 7/16
TERMINAL STUD
8-32 THREAD
.194 DIA.
12 MOUNTING HOLES
SEE NOTE
1/4
3/4
3/4
3/4
1/4
1 5/8
2 1/2
1 15/32
3/4
3/4
3/4
1/4
9/16
9/16
3/4
3/4
4 1/8
2 1/16

NOTES:

USE NOT LESS THAN 3 #10 MOUNTING SCREWS WELL SPACED

EIGHT MOUNTING HOLES LOCATED SAME AS ON SINGLE-POLE SWITCH. USE SAME MOUNTING PROVISIONS IF OTHERWISE APPLICABLE.

WEIGHT APPROX. 2.5 LBS.

Figure 5-10—Switch SA-13/U—Outline Dimensions

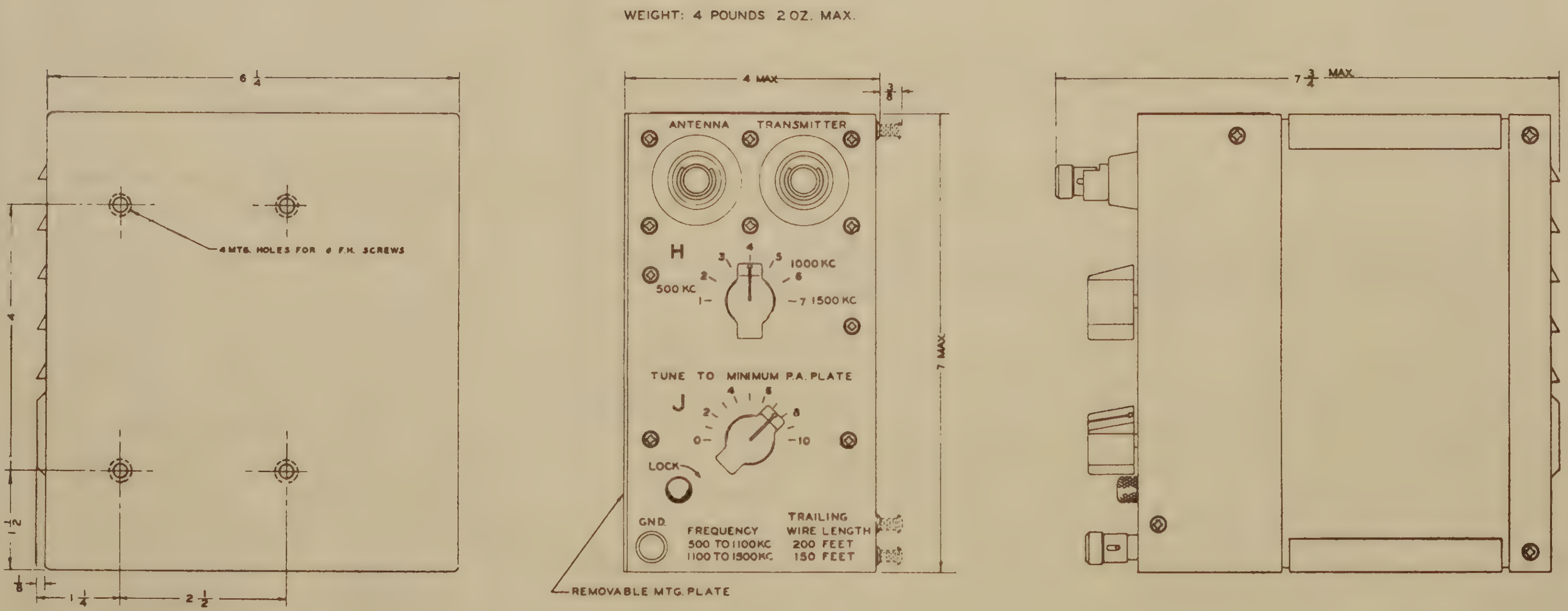

WEIGHT: 4 POUNDS 2 OZ. MAX.
6 1/4
4 MTG. HOLES FOR 8 F.H. SCREWS
4
1 1/2
1/8
1 1/4
2 1/2
4 MAX
3/8
ANTENNA
TRANSMITTER
H
1
2
3
4
5
6
7
500 KC
1000 KC
1500 KC
TUNE TO MINIMUM P.A. PLATE
J
0
2
4
6
8
10
LOCK
GND.
FREQUENCY
500 TO 1100KC
1100 TO 1500KC
TRAILING WIRE LENGTH
200 FEET
150 FEET
7 MAX
REMOVABLE MTG. PLATE
7 3/4 MAX

Figure 5-9—Antenna Loading Coil CU-26/ART-13 with Mounting Plate MT-162/ART-13 (Navy Type -47282)—Outline Dimensions

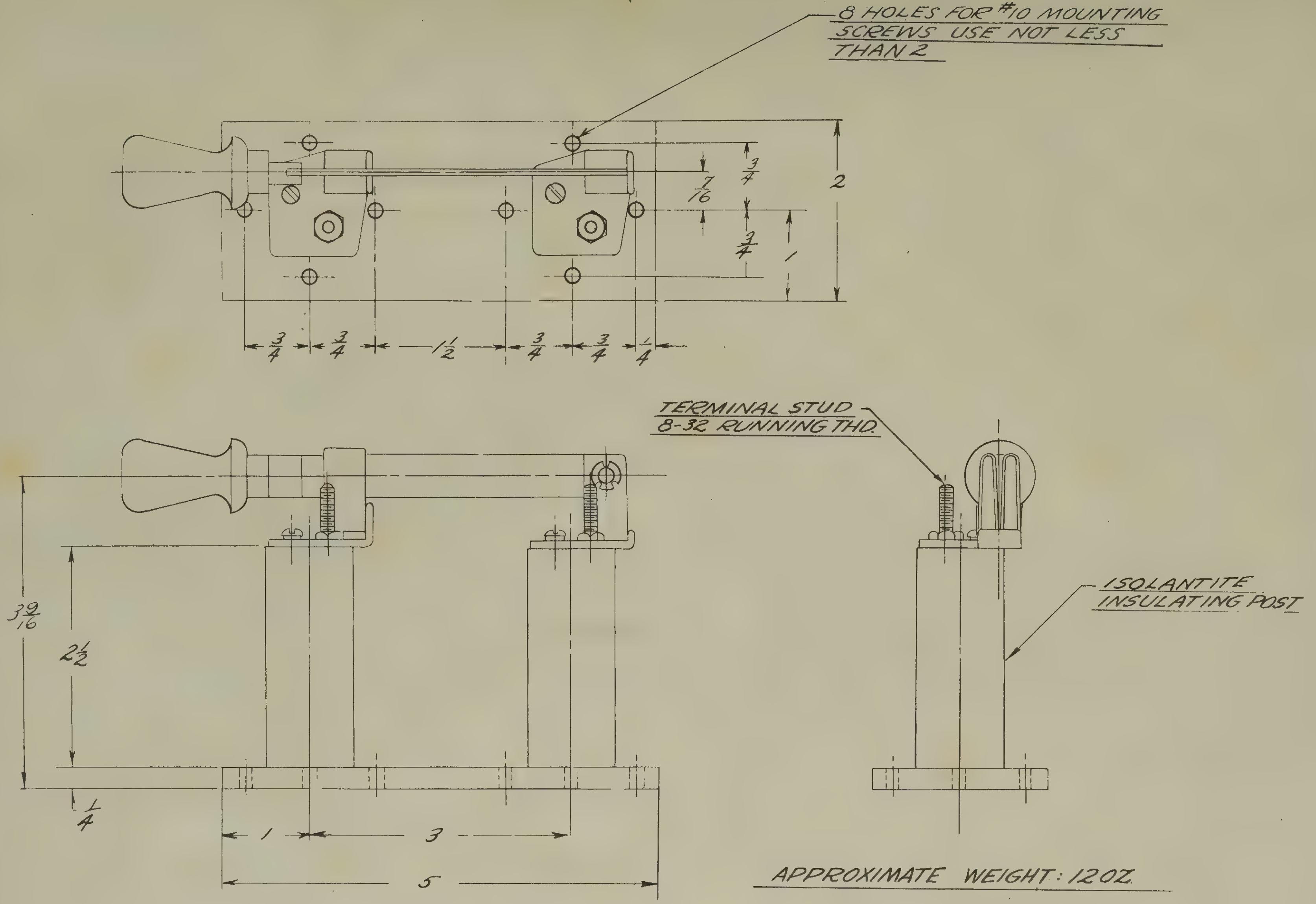

8 HOLES FOR #10 MOUNTING SCREWS USE NOT LESS THAN 2
3/4
7/16
2
3/4
1
3/4
3/4
1 1/2
3/4
3/4
1/4
TERMINAL STUD 8-32 RUNNING THD.
3 9/16
2 1/2
ISOLANTITE INSULATING POST
1/4
1
3
5
APPROXIMATE WEIGHT: 12 OZ.

Figure 5-13—Switch SA-46/ART-13A—Outline Dimensions

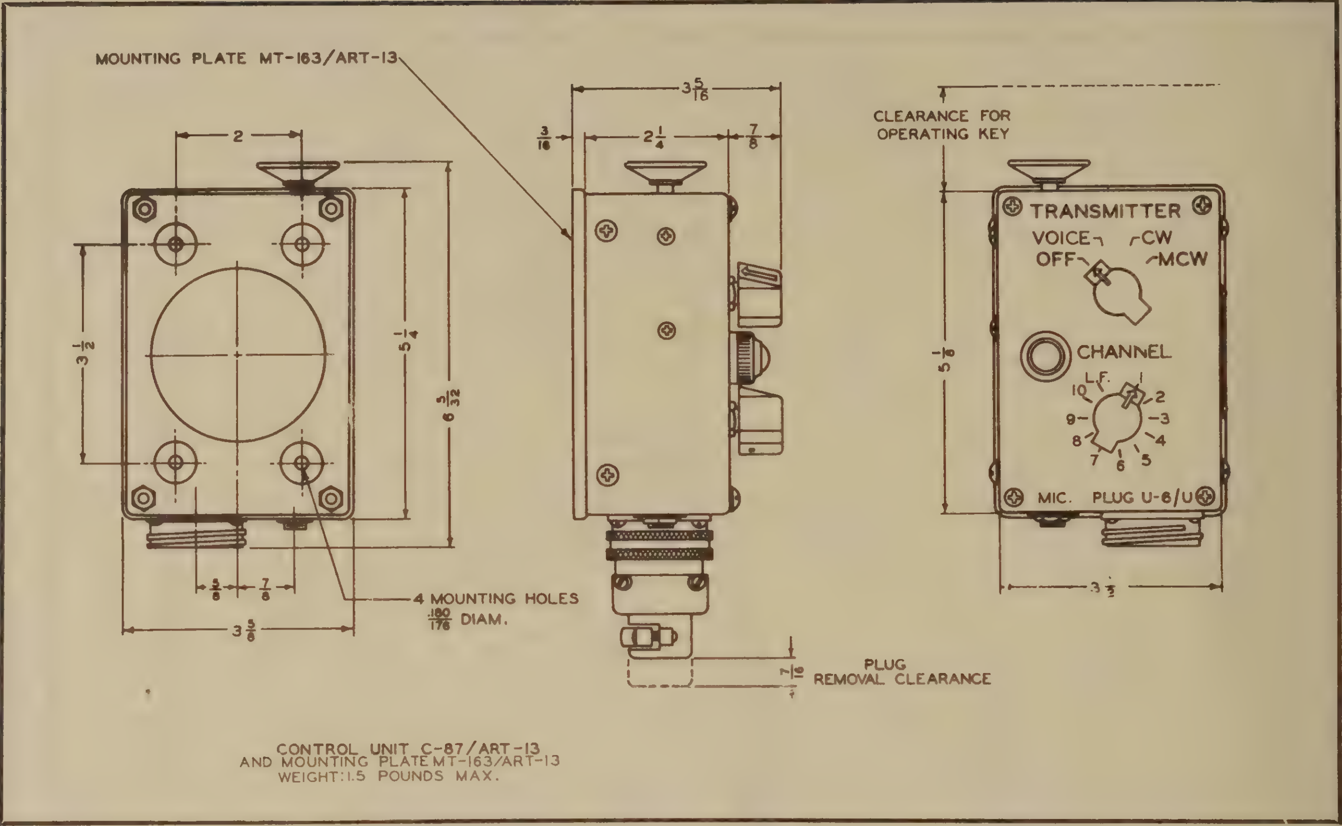

MOUNTING PLATE MT-163/ART-13
2
$3\frac{1}{2}$
$5\frac{1}{4}$
$6\frac{5}{32}$
$\frac{5}{8}$
$\frac{7}{8}$
$3\frac{5}{8}$
4 MOUNTING HOLES $\frac{.180}{.176}$ DIAM.
$3\frac{5}{16}$
$\frac{3}{16}$
$2\frac{1}{4}$
$\frac{7}{8}$
$\frac{7}{16}$
PLUG REMOVAL CLEARANCE
CLEARANCE FOR OPERATING KEY
TRANSMITTER
VOICE
OFF
CW
MCW
CHANNEL
L.F.
1
2
3
4
5
6
7
8
9
10
MIC.
PLUG U-6/U
$5\frac{1}{8}$
$3\frac{1}{2}$
CONTROL UNIT C-87/ART-13
AND MOUNTING PLATE MT-163/ART-13
WEIGHT: 1.5 POUNDS MAX.

Figure 5-11—Control Unit C-87/ART-13 (Navy Type -23330)—Outline Dimensions

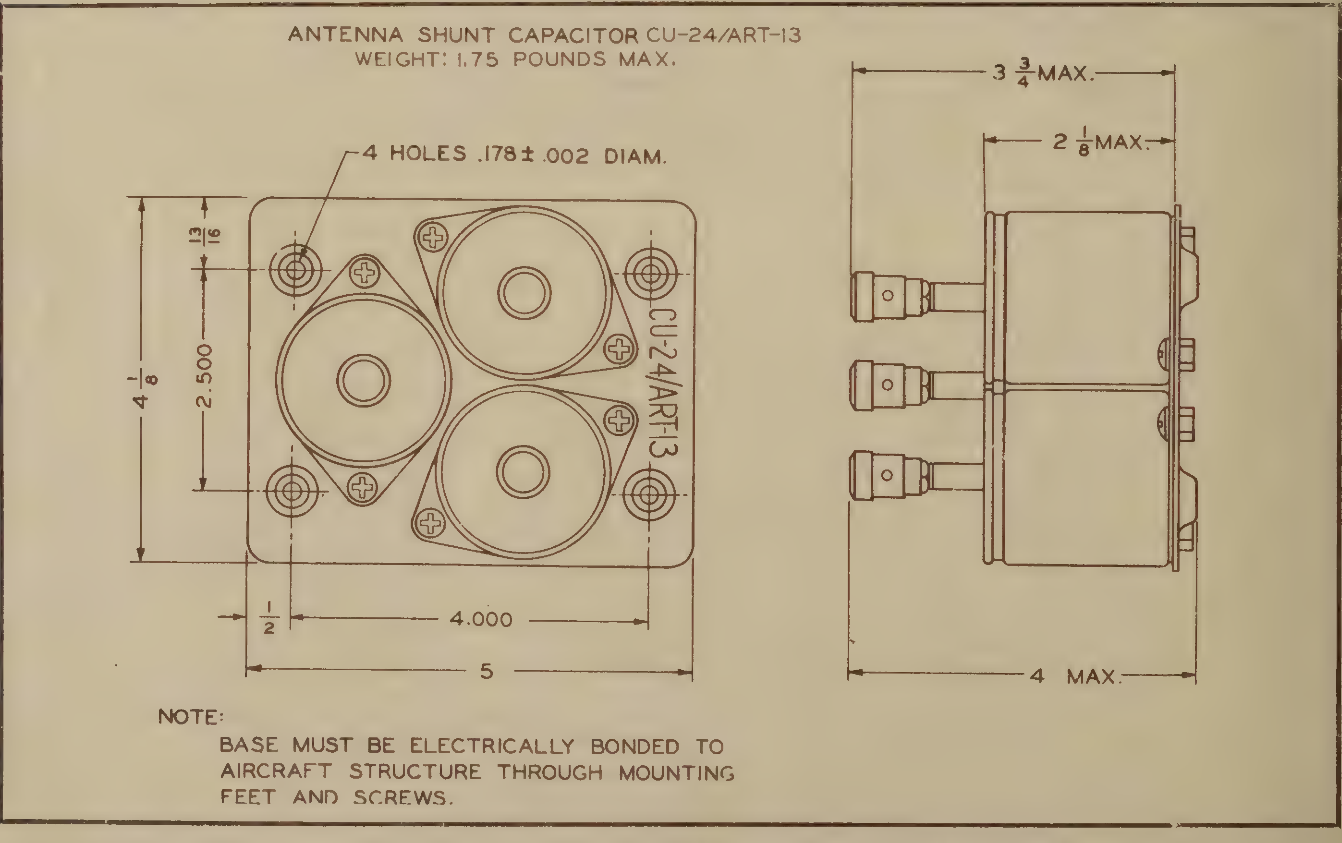

ANTENNA SHUNT CAPACITOR CU-24/ART-13
WEIGHT: 1.75 POUNDS MAX.
4 HOLES .178 ± .002 DIAM.
$\frac{13}{16}$
$4\frac{1}{8}$
2.500
CU-24/ART-13
$\frac{1}{2}$
4.000
5
$3\frac{3}{4}$ MAX.
$2\frac{1}{8}$ MAX.
4 MAX.
NOTE:
BASE MUST BE ELECTRICALLY BONDED TO AIRCRAFT STRUCTURE THROUGH MOUNTING FEET AND SCREWS.

Figure 5-12—Antenna Shunt Capacitor CU-24/ART-13 (Navy Type -481628)—Outline Dimensions

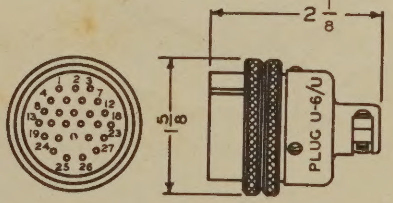

2 1/8
1 5/8
PLUG U-6/U
1 2 3 4 5 6 7 8 12 13 18 19 23 24 27 25 26

FIG. A

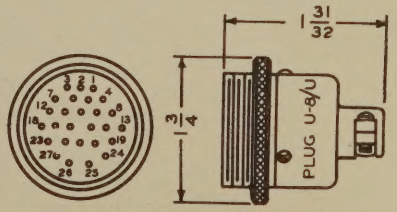

1 31/32
1 3/4
PLUG U-8/U
1 2 3 4 7 12 13 18 19 23 24 27 25 26

FIG. B

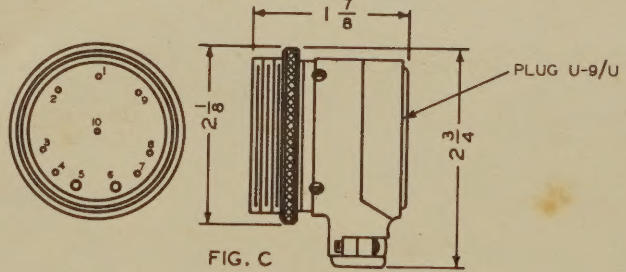

1 7/8
2 1/8
2 3/4
PLUG U-9/U
1 2 3 4 5 6 7 8 9 10

FIG. C

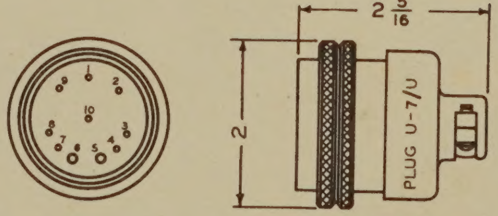

2 5/16
2
PLUG U-7/U
1 2 3 4 5 6 7 8 9 10

FIG. D

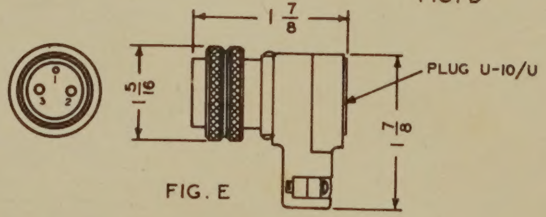

1 7/8
1 5/16
1 7/8
PLUG U-10/U
1 2 3

FIG. E

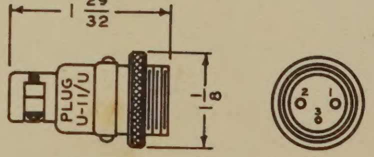

1 29/32
1 1/8
PLUG U-11/U
1 2 3

FIG. F

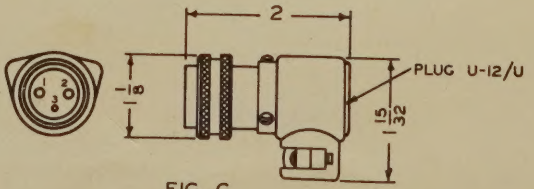

2
1 1/8
1 15/32
PLUG U-12/U
1 2 3

FIG. G

FIG.	ARMY-NAVY NOMENCLATURE	MANUFACTURER'S PART NUMBER	WEIGHT POUNDS
A	PLUG U-6/U	NK-27-21c-11/16-3	0.17
B	PLUG U-8/U	RNK-27-22c-11/16-3	0.15
C	PLUG U-9/U	RFK-10-24c-9/16-3	0.20
D	PLUG U-7/U	FK-10-21c-9/16-3	0.17
E	PLUG U-10/U	GK-C3-23c-1/2-4	0.15
F	PLUG U-11/U	RWK-C3-22c-7/16-1	0.10
G	PLUG U-12/U	WK-C3-23c-7/16-1	0.10

NOTES:

1-REMOVE INSULATION FROM $\frac{1}{4}$ INCH OF END OF EACH WIRE AND TIN.

2-REMOVE PLUG COVER, LOOSEN CABLE CLAMP, AND PASS WIRES THROUGH PLUG COVER.

3-SLIP A PIECE OF PHENOLIC TUBING OVER EACH WIRE. THIS TUBING SHOULD BE LONG ENOUGH TO COVER THE SOLDERED CONNECTION AND EXTEND THROUGH THE CABLE CLAMP.

4-SOLDER EACH WIRE TO ITS APPROPRIATE PIN. DO NOT USE EXCESSIVE AMOUNTS OF SOLDER AND WATCH FOR STRAY STRANDS WHICH MAY SHORT PINS TOGETHER. SLIDE TUBING DOWN OVER EACH SOLDERED CONNECTION.

5-DRAW THE PLUG COVER OVER THE CABLE AND THE ENDS OF THE PHENOLIC TUBING. REASSEMBLE PLUG AND TIGHTEN CABLE CLAMP.

6-THE RIGHT ANGLE PLUG COVERS MAY BE ASSEMBLED TO THE PLUG BODY IN OTHER POSITIONS THAN THOSE SHOWN, TO SUIT INSTALLATION.

Figure 5-14—Plugs for Radio Transmitting Set